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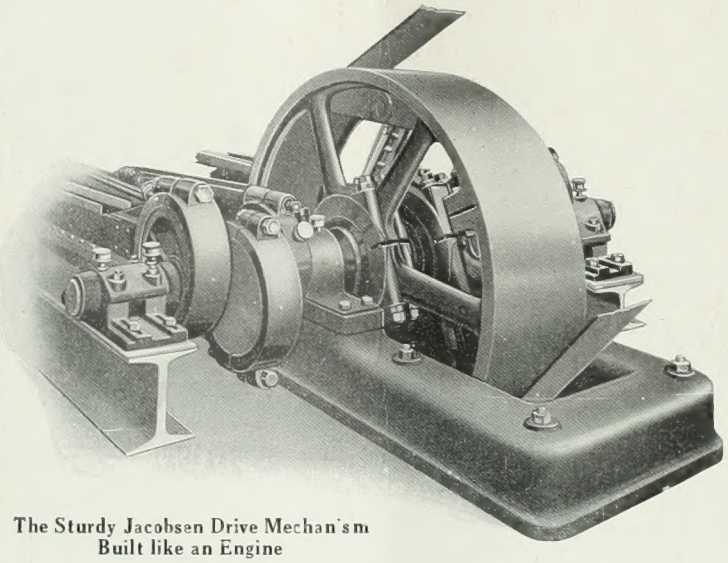

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THE GOVERNMENT'S DUTY

THE FIRST duty of government is to enforce the provisions of the Constitution of the United States. That Constitution guarantees to every citizen the right to life, liberty and the pursuit of happiness. Those rights were denied to the miners who were murdered at Herrin, Illinois, as a result of a nation-wide conspiracy which whether knowingly or not, has been participated in by every member of every labor union in the United States. Is this sweeping charge without adequate foundation? If justified, organized labor should at once reorganize itself along lines not directly tending toward anarchy and lawlessness and confine itself to efforts within the law to accomplish its purposes. If the laws are not adequate organized labor's voting strength and influence ought, if its contentions are just and right, to soon secure amendments to the laws which will permit the attainment of their desires without resort to murder and arson.

If these desires cannot be accomplished without lawlessness, then they should not be secured. The very fact that the lawless invasion of the rights of another is required is positive proof that the purpose sought to be accomplished is wrong. The supreme law of the land, the Constitution, provides first for the protection of the individual right of every citizen. Membership in a labor union does not create any additional right under the law. Men may lawfully accept employment without contributing to the support of the labor chiefs and without justifying those labor chiefs in ordering that: "These men must be treated as common strikebreakers." Can it be that the issuer of this order did not know that he was contributing to conditions which always lead to lawlessness and which almost inevitably lead to murder? Of course he knew it. Would it be unfair to charge that he is guilty as an accessory before the fact of the murder of miners slain at Herrin?

A man is presumed to intend the inevitable consequence of his act. Lawlessness always follows; in fact, is a part of "treatment as a common strikebreaker" on the part of union labor. Union labor must learn that it has no rights not vouchsafed to non-union labor.

The Constitution guarantees to the meanest citizen "life, liberty and the pursuit of happiness." Not one, but all three rights are guaranteed by the Constitution. At Herrin not one, but all three were violated by the implied order of the president of a labor union boasting a membership of a half million.

Is this colossal crime to be unpunished? If so, representative government is a failure. If a small minority can force its demands by murdering those who interfere and escape punishment, government is a failure. The plain duty of government is to bring about the punishment of all those who knowingly contributed to or encouraged this brutal wholesale violation of law. If the local courts fail, the state should act; if the state fails it has broken its contract to maintain a republican form of government upon which statehood was granted, and its statehood should be abolished until it has again qualified for admission as a state, in which case the Federal government should take charge of the situation and enforce the guarantees of individual liberty provided by the Constitution. Representative government cannot long exist except by the control of the majority, and it is the supreme duty of government to preserve itself by protecting its citizens in their constitutional rights.

MUCH DROSS AND LITTLE GOLD

WHILE LARGE issues of national import confront the nation the legislative machinery of Congress should not be clogged with bills relating to matters of small concern. Congress should, at all times, be free to devote adequate attention to the vital needs of the whole country untrammeled by measures of a purely local nature or of doubtful importance. Of the 12,000 or more bills introduced in the 67th Congress, probably not more than 100 merit more than passing consideration and yet Congress must mark time while these bills are read, committees must spend days, weeks, and even months reviewing them, and committee members must divert their thoughts from grave problems to devote time to matters of a trivial nature. Constituents should remember, when criticising Congress or its members that a congressman, if he even half way acquaints himself with pending bills, is worked to the limit of his physical and mental reserves.

Many of the measures which hamper Congress are measures which obviously are impracticable. Others clearly would be in violation of the Constitution if enacted. Still others are introduced merely to satisfy demands of local constituencies, there being no possibility of their passage. A few may represent the utopian dreams of their authors. It seldom happens that a bill is introduced which will bear rigid scrutiny, and gather support enough to pass in such form that it could be identified as the measure originally offered by its sponsor. No wonder the country chafes at the delay in the enactment of important legislation. No wonder Congress, even when working overtime, is unable to obtain maximum results for the good of the nation. Congress deserves much credit for the careful consideration and critical analysis to which measures brought before it are subjected.

There are numerous problems taken up by Congress which legislation cannot solve. There are conditions existing throughout the country which have been brought about or aggravated by too much legislation. There are improvements needed in national affairs which

can come only through a better knowledge of the processes involved and sounder practices on the part of those directly concerned. Congress should not be called upon to take action in respect to matters which, if left alone, will be remedied in the natural course of events without government interference.

It would be difficult to analyze the situation in Congress, or to define the causes for this situation. So many outside influences are at work, each in an isolated sphere, many in direct conflict and many far remote from the seat of government, that it is impossible to level proper criticism toward any specific reason for the muddle. The genius of the people should be directed toward the solution of this problem, and perhaps with all interests seeking to improve conditions, the country will be better off, and business will be regulated by cooperation rather than by la ·.

WHEN LABOR ACTS SANELY

MID-YEAR reports by the Geological Survey, showing progress toward normal conditions which has been made by the metal mining industry, reflect conditions which are created when labor realizes that its greatest good comes from respecting the economic laws of nature.

Metal miners generally have played their part in the liquidation which all industries now standing on the threshold of recovery have undergone. Without striking, without haggling, these men have acted as their foresight dictated, giving their assent to wage reductions with the knowledge that such action formed the only means of insuring the greatest possible amount of employment in the midst of unsettled conditions.

This attitude is directly traceable to a tangible cause for its existence. That cause is found in the freedom of the metal mining industry from domination by organized labor. Most certainly, if the United Mine Workers of America had been able to work its way into the vitals of the metal mining industry as it has in the case of the further-flung and therefore more vulnerable coal mining industry, the metal mines today still would be struggling in the slough of depression, bound hand and foot by unjustified high wage scales for which unionism battles without regard of consequences.

The chain of natural economic results that follows this acknowledgement of the necessity for wage reductions clearly shows how well those who adhere to this line of sane action are repaid for their good judgment. Lower labor costs mean lower prices to the consumer, which in turn bring an increased demand. Under an increased demand transportation, the other large factor in ultimate cost, can well afford to operate at reduced rates. Thus, a general tendency toward prosperity is invited, and around the entire industry is cast the knowledge that the best conditions possible prevail in the face of the lack of industrial settlement which has followed in the wake of the war.

Carefully and authentically compiled statistics, presented to the Interstate Commerce Commission and received without question, show the following average daily wage figures prevailing during recent years in the metal mining industry: 1916-17, $3.56; 1919-20, $5.07; 1921-22, $4.40. No one conversant with the policies of rampant organized labor can hold that the reduction in wages accepted without embroglio by the workers in this industry would have been placed in effect had those who pretend to fight for the "rights of the workingman" been guiding the thoughts of men who work in the metal mines. All logic is attached to the conclusion that if rabid labor leaders had been able to insert themselves and have their say, the metal mining industry, like others around it which are less fortunate, would be submerged in a mass of troubles created by refusal of labor to share its part of the burden of liquidation.

THE BONDAGE OF UNIONISM

ANALYSTS of the strike situation have found a strong trend of public sentiment developing against the striking coal miners and railroad workers because of the unreasoning spirit which actuated the strikers in rejecting governmental mediation and in defying governmental authority. This trend of sentiment springs from two great sources representing more than twenty million voters throughout the country, the first and most powerful being that group of citizens whose only interest in the situation is ample fuel for household, industrial and transportation necessities, and the second, also a powerful group, and including millions of citizens from every walk of life, being the small investors in securities of the industries now suffering tremendous financial losses as the direct result of the two strikes.

Members of the first group must have coal and employment. Coal is a vital household necessity. Coal is a vital industrial necessity. Millions of citizens will suffer from the fuel famine if the mines are not soon opened. Millions of workers will be thrown out of employment if the shortage of coal continues and manufacturing plants are forced to close down. Members of the second group, which also includes many belonging to the first class, will be deprived of substantial incomes from their life savings which have been invested in industrial securities. It is ridiculous to term these small investors, most of whom are workers, though perhaps not all union workers, "capitalists." So-called capitalists are comparatively few. Their aggregate investment in the mines, railroads, or manufactures, hardly approximate the aggregate investment of these millions of small stockholders. These two groups are united on the common principle that law and order must prevail at all times and that governmental authority must be respected. Therefore, it must be that the strikers have overlooked several important factors which have turned public sentiment almost unanimously against their cause. The public will not soon forget the Herrin massacre, the darkest splotch on the record of labor unionism in America, and equalled in fiendish brutality only by the horrors of the Inquisition of several centuries ago. The public will place the blame for any fuel shortage, this coming winter upon the miners who flatly rejected the President's proposals for arbitration, however ill-advised from a public standpoint, they may have been. The public will not countenance now or in the future such defiance of law and of governmental authority as was shown when the railroad workers left their posts of duty.

Demagoguery must be discarded and public interest must be permitted to control. The union worker who declaims so vigorously in favor of freedom from industrial slavery must learn to recognize as equal to his own the sacred rights of his fellow workman who refuses to place himself under union domination. Surely he is as much entitled to pursue his course without union interference as the union man is to follow his trade under union control. Surely if he prefers not to divide his earnings with a union organization he has the right to that preference, and unions and union men should leave him alone.

Looking beyond the personal aims and ends which have actuated the miners and railroaders in undertaking the present strikes, the analyst of conditions can see

nothing to be gained by the strikers except unpopularity, loss of wages for several weeks or months, and ultimate defeat. The hardship which the public suffers as the result of failure on the part of the strikers to obey government mandates or to acquiesce in the government's proposal for arbitration can have no other effect than to turn public opinion against their cause. The aggregate loss in wages is so great that neither the miners or the railroad employes can possibly recoup their losses even if their utmost demands are met and they are returned to their former places. But ultimate defeat now stares them in the face. Had their leaders been men capable of visualizing the possibilities of the future, strikes at such a time would never have been permitted. Of course, the strike leaders are suffering no hardships or deprivations. Their income is constant. They continue, through the most trying period, to draw upon the enormous funds that have been accumulated by their organizations from dues and assessments on their membership—the men—the strikers who, with their families, are now starving because their wages have ceased. Is it possible that 1,000,000 men in this enlightened age can be so dominated by a few leaders that they accept the judgment of these leaders without weighing consequences? Is it possible that 1,000,000 free American citizens lack the ability to see beyond the ends of their noses? The present strike situation indicates that both of these questions must be answered in the affirmative.

If all men who are employed were 100 percent efficient, employers could afford to pay higher wages and all commodities and necessities of life could be produced at a lower cost to the consuming public. But there is cumulative evidence of a convincing nature that a very large percentage of workmen are far from being 100 percent efficient. The inefficiency of these workmen places an enormous handicap upon those who would be efficient and conscientious in rendering full service for value received. The amount of work to be performed by an employe, especially in a unionized industry, is too often measured by the minimum amount performed by the least efficient, and the efficient workman who renders conscientious service, who studies to increase his efficiency, and whose production thereby is increased above that of his less energetic associates, immediately loses standing with his union, often is reprimanded and threatened with expulsion and brutal treatment, and thus is forced to surrender initiative, conscience and skill to unprincipled molders of his destiny. This condition exists today in every unionized district. The union man who, if left alone, would improve his time, increase his efficiency, educate, feed and clothe his family, and work for the betterment of his community as well as the success of the enterprise by which he is employed, is swayed by the pernicious influence of associates who, when not employed, may be found squandering time and money.

It is difficult to convince any union man that he is being duped. His viewpoint has been so warped by long association with the single idea that unconscionable "capitalists" are striving to keep him shackled to poverty and industrial "slavery" that no amount of evidence to the contrary can convince him otherwise. Only by bitter experience will he learn. Only by a lifetime of struggle and hardship will be survive the results of his narrowed perspective and his limited opportunities. Unshackled from the bonds of unionism, freed from the thongs which bind his initiative and his opportunities, released from the influences which strive to keep him from seeking knowledge and from enlarging his productive capacity—both of which will enlarge his earning power and increase his value to his employer—he would enjoy an independence of thought and action and a "living wage" which are now denied him by reason of the limitations and restrictions placed upon him by those who do his thinking for him.

SLAPPING FAIRNESS IN THE FACE

GOVERNMENT OPERATION of the Muscle Shoals power and nitrate plants looms as a possibility since the Senate Committee on Agriculture and Forestry rejected the offer of Henry Ford to purchase the nitrate plants and lease the dams and power rights for 100 years. Thus far the question of offering private enterprise the opportunity of leasing and operating the Muscle Shoals project under the Federal Water Power act has not been given serious consideration. Supporters of the Ford proposal have strongly urged legislation which would ignore completely the Federal Water Power Commission which logically should have jurisdiction over this great undertaking. The reason for this is apparent, for the Ford proposal does not contemplate any form of governmental supervision or safe-guards to the interests of the public which would be applied under the terms of the water power act. There are no provisions or guarantees of any consequence in the Ford proposition except those which are binding upon the government.

If Henry Ford should lease Muscle Shoals under the Federal Water Power act, he or his corporation would be compelled to keep records and make reports to the government by means of which his net investment in the properties may always be known; the government could see that the properties are properly maintained, that adequate depreciation reserves are established, that power resources are fully utilized, and that the government's enormous investment is amply protected at all times.

To lease Muscle Shoals under terms more liberal than those provided in the water power act would set a precedent which would start a clamor from every corporation now operating under that act for a modification of their leases and an extension of time from 50 to 100 years. Shackling unborn generations with a legislative contract which gives away stupendous rights without corresponding safeguards will never meet with public approval. Neither can justification be found for making an exception to the law in the case of Henry Ford while other power lessees are held strictly to the terms of that law.

That the Federal Water Power Commisson, if afforded the opportunity, can negotiate a contract or contracts, which will insure the fullest practicable utilization of power at a minimum of expense to the government, and for the benefit of industries and municipalities of the south, seems entirely reasonable. The water power commission, so long as it remains in existence, is the logical agency to handle the promotion of Muscle Shoals as well as all other water power development. Conservation of these resources amply justifies the centralization of authority under a single administrative agency, and the necessary appropriations with which that agency can function effectively. Any effort to dispose of the country's huge water power resources by legislation designed to emasculate the terms of the water power act should be defeated or that act should be repealed and the commission abolished.

TWIN STRIKES FORCE DRASTIC FEDERAL ACTION

Government Assumes Unprecedented Control of Coal and Transportation Situations —Flood of Litigation Foreseen as Result —Plan Launched With Details Undeveloped —Small Hope for Averting Fuel Shortage During Winter Months

DRIVEN by the possibility that the greatest industrial upheaval in the history of the country may bring a coal and food famine to the United States, the government has been forced to take unprecedented steps in its effort to control the situation. In taking these steps, the administration has selected its basis of authority from the transportation act of 1920, which states that the Interstate Commerce Commission may create or revoke regulations pertaining to railway traffic as it sees fit when it is of the opinion that "shortage of equipment, congestion of traffic or other emergency requiring immediate action exists in any section of the country."

Possibilities exist that a flood of ligitation similar to but in far greater magnitude than that which inundated the railway commission will follow the broad exercising of powers which the Interstate Commerce Commission must undertake under the present plan of control.

Close observers declare that shippers throughout the country whose shipments are diverted or stopped entirely by the commission under its enforcement of priority ruling may bring suits against the Government in great numbers. These suits, if brought, would claim violation of the Interstate Commerce Act which declares that "it shall be unlawful for any common carrier subject to the provisions of this Act to make or give any undue or unreasonable preference or advantage to any particular person, company, firm or corporation, or locality or any particular description of traffic in any respect whatsoever, or to subject any particular person, company, firm, corporation or locality or any particular description of traffic to any undue or unreasonable prejudice or disadvantage in any respect whatsoever."

So absolutely without precedent was this move that announcement of the plan found details for its operation far from decided upon.

Failure of attempts to bring about negotiation of the strikes had forced the government to hurriedly set up a machinery which would provide as best it could against shortages of coal and food. This plan, origination of which is accredited to Secretary Hoover, was placed in force by the administration on the theory that it would operate in a more or less automatic fashion, with the government planning to meet detail problems as they presented themselves after the system of control was established.

One of the most interesting phases of the situation developing late last month was centered around possibilities of government action should cases present themselves where car supplies would be refused by the I. C. C. on the ground that unfair prices were being charged for the commodities intended for shipment. That Secretary Hoover, in his position as director of the control system must have possession of "an ace in the hole" to deal with this contingency seemed a certainty. Were this not the case, a contest might be entered into in such cases under which necessity for production of coal at vital sources of supply would be pitted against refusal of the government to supply cars to those particular points should prices deemed by the government as "unfair" be asked.

While no possibility or indication of such a situation presented itself, close observers noted that the government could at no time take a position in dealing with the results from the combined strike which would leave it without a reserve power to act in cases where condition threaten to vault over established plants for control.

This system of maintaining a reserve power is well demonstrated in the efforts of Secretary Hoover to prevent a run away coal market. When such a market first showed possibilities of approach Secretary Hoover played his "moral suasion" plan against the tendency of economic forces to increase prices. When these forces became so strong as to assert themselves despite "moral suasion," the reserve was called upon, furnishing a definite leverage in the form of control of prices by manipulation of car supply.

Rising above all discussions of the procedure taken by the government and questions relating to the legality of such procedure, the fact remains that nothing but the most sudden return of all the coal mines of the country to normal production will stave off a fuel stringency this winter.

Even should the plan for operation of the mines under armed protection reach the height of its efficiency, with all miners who have been kept from work by intimi-

PRODUCTION OF BITUMINOUS COAL

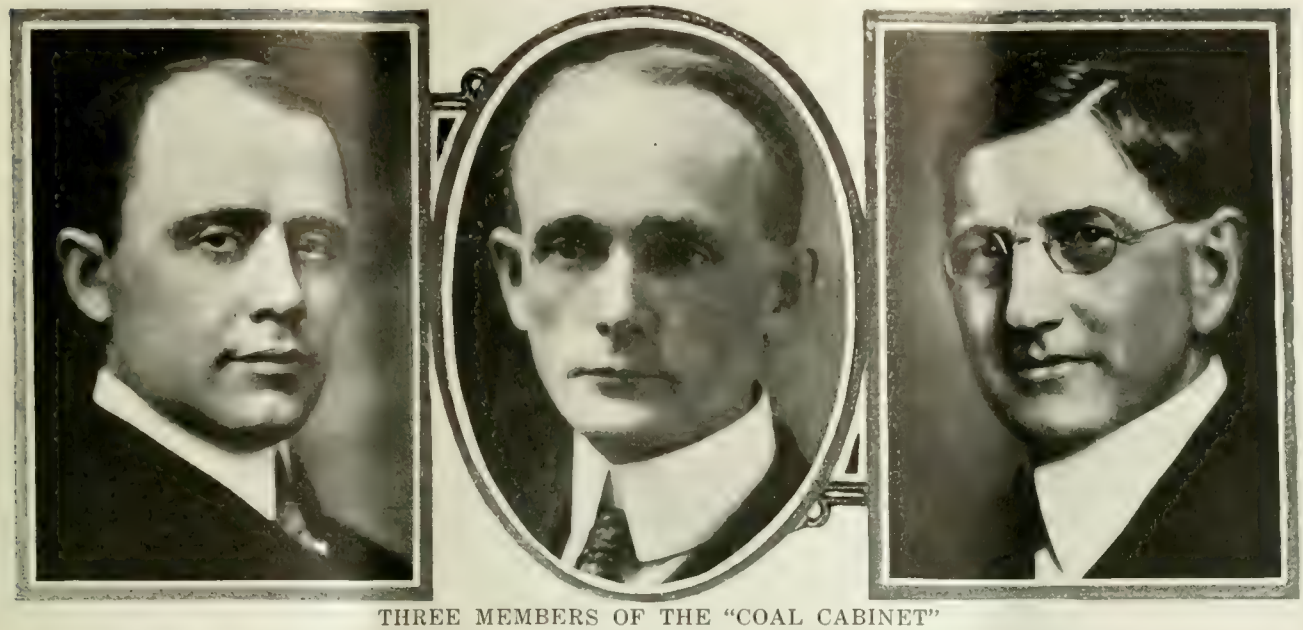
The following table analyzes production during the first half of 1922 by major groups of fields, and for comparison the corresponding figures for 1919 to 1921 are shown. In each of the five major regions the output this year was far below the years of activity. In comparison with 1921, the Northeast showed little change, and the Southern Appalachians increased. In the Eastern and Western interior regions, where practically all fields are unionized, 1922 was far behind 1921 on June 30. In the three weeks since June 30 these differences have been accentuated.

Production of soft coal in the first half of the year,

(net tons)

Section	1919	1920	estimated 1921	estimated 1922
aNortheast	137,592,000	159,057,000	117,970,000	117,388,000
bSouthern Appalachian	9,528,000	10,514,000	8,439,000	10,051,000
cEastern Interior.	41,406,000	59,004,000	46,558,000	39,705,000
dWestern Interior	9,957,000	12,649,000	9,605,000	7,083,000
eMountain States and Northwest..	14,831,000	18,608,000	13,686,000	12,892,000
fTotal	213,314,000	259,832,000	196,258,000	187,119,000

(a) Michigan, Pennsylvania, Ohio, West Virginia, Maryland, Eastern Kentucky and Virginia. (b) Alabama, Georgia, and Tennessee. (c) Illinois, Indiana and Western Kentucky. (d) Iowa, Kansas, Missouri, Oklahoma, Arkansas and Texas. (e) Colorado, New Mexico, Utah, Wyoming, Montana, North Dakota and Washington. (f) Alaska, California, Idaho, North Carolina, Oregon and South Dakota not included.



THREE MEMBERS OF THE "COAL CABINET"

Law, science and transportation are the specialties of these federal officials who lend their technical knowledge to administration of the government's plan to cope with effects of the coal and rail strikes. Left to right: Blackburn Easterline, Department of Justice; H. Foster Bain, Department of the Interior, and Clyde B. Aitchison, Interstate Commerce Commission

dation returning to their places, the best possible weekly production obtainable in the face of strike conditions existing at present would be 6,500,000 tons. Add to this a possibility that importations will reach the weekly figure of 1,000,000 tons the total still falls far short of the nation's necessity. A weekly production of at least 12,500,000 tons would have to be achieved almost immediately to avert a fuel shortage this winter.

The following announcement was made on July 26 at the office of the Secretary of Commerce:

"The President today requested the Attorney General, the Secretary of the Interior, the Secretary of Commerce, and Commissioner Aitchison of the Interstate Commerce Commission, or their representatives, to act as a Coal Distribution Committee under the temporary chairmanship of the Secretary of Commerce. A fifth member is to be added to the committee later, who will undertake the administrative direction. The ultimate character of the organization must depend upon the situation."

Telegram to Governors

On the same day, Secretary Hoover sent out the following telegram to the governors of the states on behalf of the Presidential Coal Distribution Committee, as the first step toward decentralizing the organization for equitable distribution, and maintenance of fair prices, of coal. Under this plan the distribution for railway use will be directed from Washington, but, with the possible exception of a few interstate public utilities, the responsibility for all other distribution will rest upon organizations set up under state control.

The text of Secretary Hoover's telegram:

"In order that the Federal government may do its part in the distribution of coal supplies over the present very difficult situation, the President has appointed a committee on coal distribution comprising representatives of Departments of Justice, Interior, Interstate Commerce Commission and Department of Commerce under my chairmanship for the purpose of securing coordination of Federal agencies in the best distribution of the available coal supplies.

"Certain priorities have been established in necessary commodities and fuel by the Interstate Commerce Commission who have asked your state Public Utilities Commission if Interstate Commission may have its active assistance in the distribution of coal to transportation and public utilities and governmental institutions if necessary. Beyond this the Presidential committee on coal distribution are cooperating with coal operators and with the Interstate Commerce Commission in an endeavor to secure that coal shall be sold from the mines at a fair price.

"The agencies and present authority of the Federal government of course do not enable it to protect the ultimate consumer of coal within the boundaries of a state further than such protection can be secured by the above means that coal sold in Interstate Commerce shall be sold to the original purchaser at a fair price and that fair distribution between states be obtained. The problem of securing that the ultimate consumer shall be protected upon coal now in circulation and on resale of coal distributed as above and that equitable distribution shall be carried out must rest within the authority of each state. I am sending this telegram at the request of the President to learn if you feel that you can undertake to create a state organization under your direction to secure that this shall be done and with which we can cooperate."

OFFICIALS SEE GOOD BUSINESS AHEAD IF STRIKES END SOON

IF A SATISFACTORY settlement of the present labor difficulties can be reached in the near future, there is every reason to believe that business will continue on its present level, or even increase in volume, according to officials of the Department of Commerce, who have been studying the business conditions of the country very closely. The failure to reestablish European economic equilibrium may continue to limit our foreign trade in that direction, but domestic conditions as well as those in many other parts of the world are favorable to further expansion, it is said.

"MOUTHPIECE OF THE WESTERN MINING INDUSTRY"

Newly Created Western Division of Mining Congress Will Crystallize Sentiment—
Unity of Sentiment at Denver Conference An Indication of Body's Possibilities—
Organization To Be Completed Within Near Future

By Burton Bunch
Western Secretary, American Mining Congress

THE UNITY of sentiment on many vital questions, expressed by the Western Mining Conference in Denver in June, is an indication of results that may be expected from a successful functioning of the Western Division of the Congress, the creation of which was authorized by the conference. It will not be so necessary in the future to lay elaborate plans for special gatherings long in advance of dates set for such meetings, because the purposes of the new division, if carried out as now seems certain, will make it easier for the mining industry in the territory included to express itself on matters of general interest in the west. Whether these questions are problems of economics or legislation the plans now developing for covering the field will enable the executive forces of the division to learn what the west desires, and to communicate these desires to the Washington office as the concerted action of the west.

Statement of Purpose

Perhaps no broader explanation of the purposes of the Western Division than the opening paragraph of the creating resolution can be given. The means by which these purposes are to be realized are yet to be arrived at but the board of governors representing the states of Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, North Dakota, South Dakota, Utah, Washington and Wyoming, when these states have named such representatives, will have authority to conduct the affairs of the division so that the intent and purposes may become real. The resolution sets out the motif of the division as follows:

"To develop larger cooperation among those engaged in the mining industry of the western states and to provide a medium for greater unanimity of thought and action in assisting the work of the American Mining Congress."

The thirteen states named are those generally referred to as the Rocky Mountain and Pacific Coast states.

The provisions of the original resolution are for the naming of one member of the western board of governors by each of the thirteen states, such selection to be made by the existing state organizations in any way they see fit. In those states in which state chapters of the national organization exist, the selection is to be made from among the membership of the chapter. In states where there are two or more mining organizations, selection of one representative is to be made by joint action. The secretaries of state chapters, and one secretary from each state where there are no chapters, are to be ex-officio members of the board of governors. When seven representatives have been selected by as many states, election of a chairman of the board and a governor is to be held, either by referendum, or by a special meeting.

Cooperation With Parent Body

The plan makes is possible for the national offices of the Mining Congress to cooperate directly, through the Board of Governors of the Western Division with those organizations representing the industry in states where no official chapter exists, and thus will do away with much of the duplication of effort in action on public questions affecting mining. The duty of the board of governors will be to consider and take action on such matters as may be pending with the congress, to the end that the parent body may proceed intelligently with full appreciation of the wishes of those most directly concerned. It has been difficult in the past, particularly in considering complicated questions in which there may be a wide variety of opinion, to obtain from the west any expression sufficiently representative to justify the American Mining Congress in taking a definite stand as speaker for the west.

The Western Division will in the nature of things be materially assisted by the western secretary, who by his travels to the various districts of the west will be able to "feel" the sentiment growing on any important question, and so report to the members of the board, and to the Washington office. He will be available with reasonable notice to participate in state meetings at which information he may possess may be desired, and at such meetings to report the things he knows have been done, or have been considered in other western states.

Two Meetings Scheduled

Two meetings of the Board of Governors of the Western Division are contemplated for each year, one to be held at the time and place of the annual Mining Congress Convention, and the other at a time and place to be selected by the Board of Governors. Special meetings may be held as need arises for discussion of matters that require speedy action.

Briefly the Western Division will operate to disseminate information essential to the formulation and concentration of ideas leading to a common viewpoint on all issues affecting western mining interests. Details of its work will be discussed in Denver early in August, and a more definite organization, possibly as to future necessary committees of the Board of Governors, will be made part of the meeting to be held in conjunction with the convention in Cleveland in October.

ROYALTY RECEIPTS REACH HIGH TOTAL

ROYALTIES received from the production of minerals on leased public lands are becoming an important item of Federal revenue, according to the United States Bureau of Mines, which reports receipts totaling $5,766,507 to June 30 from the production of oil, gas and gasoline in the states of Wyoming, Montana and California. Oil and gas royalties are now being reported in excess of half a million dollars per month, receipts for June amounting to $565,199. Of this amount $295,147 is credited to Wyoming, $250,297 is credited to California, and $19,755 to Montana. Royalties from the production of oil, amounting to $550,708, constitute the bulk of the June receipts. Royalties on gas amounted to $11,719, and on natural-gas gasoline were $2,771.

WESTERN MINING INDUSTRY IS REVIVING

Mid-Year Reports of Geological Survey's Experts Carry Optimistic Tone Generally—Improvement Due to Increasing Prices, Freight Rate Cuts and Improved Labor Conditions—Depression Retains Hold in Few Districts

SLOWLY BUT SURELY the mining industry of western states is working its way out of the depths of depression into which it was plunged by the twin troubles of dull markets and sky-high production costs. Reports compiled by experts of the Geological Survey to indicate the position held by the industry at the mid-year point, show a general tendency toward revival, though progress made in this direction is by no means uniform among the various states. Conditions in many localities have so improved as to be able to bear the description of "normal" without exaggeration, while the situation in several places retains a great deal of the gloomy aspect which it has held for many months.

In practically every case where an improvement is reported, increasing prices, reductions in freight rates are held mainly responsible, with better labor conditions also standing as a strong factor influencing the situation.

HELPING HIM OUT

Utah Reports Gain

Utah shows the most progress toward a genuine revival. Indications of this revival are found in the gradual increase of metal prices and generally good labor conditions, according to V. C. Heikes. Reduction of freight rates is cited as one of the factors contributing to the stimulation of mining activities in that state.

Though Utah's gold output has been steadily decreasing since 1911, the diminution in output during the current year should not be large, Mr. Heikes declares, if the Bingham mines return to a normal output. Continued increase in production of both gold and silver in Piute County suggests an increased output for the present year as compared to 1921.

The record of silver production which mines of the Tinpic district established during the period of depression is being upheld, with a marked increase shown in the quantity of low grade ore milled. Conditions in the Park City district are better than they have been for a year.

Copper production has shown little inclination to increase, the Utah Copper Company, which produces most of the copper in that state being idle about 9 months and only started to operate one of its mills in April, 1922. The mine will probably be producing 50 percent of its normal output later in the year. The mid-year found several other properties laying plans which should develop at least a nominal increase before the end of 1922.

The state's lead output was far below normal in 1921 and will probably be small in 1922. Resumption of operations on a comparatively small scale has been noted in several districts but no general turn for the better is being noted.

Slight increases in the price of zinc have shown their results in shipments of quantities of zinc concentrate. No marked improvement is seen, however.

Montana Output Nearing Normal

Normal metal production in Montana is being "rapidly regained," according to C. N. Gerry. In June most of the copper and zinc mines at Butte, the mill and smelting plant at Anaconda, and the electrolytic plant at Great Falls were active after a year of small production. The prices of copper, lead and zinc had increased somewhat and the labor conditions were nearly normal during the first six months of the year.

Montana's gold output will become normal as soon as the mines of Butte are in cooperation. The Shannon mine continues production; the Swissmont mine, at Elkhorn, is producing much gold and the Keating mine at Toston is again producing a gold-bearing iron ore. The output of silver from copper ore in Montana during the current year will be about half that of normal, but the output of silver from zinc ore and silver ore will probably be great as an unusually large quantity of concentrate from Butte is being treated.

Montana's copper output of 1922 will certainly exceed that of 1921 and may be greater than that of 1920 which was 177,059,260 pounds. In June nearly 12,000 men were working at the mines at Butte.

Activities which promise soon to bring lead production of the state to a point approximating normal figures are reported. A large output of electrolytic zinc is assured for 1922. No dividends were paid by Montana mines in the first half of 1922.

Arizona Sees Marked Activities

The mines and smelting plants of Arizona have shown marked activity since January, according to Mr. Heikes. By mid-year the copper mines had resumed production though they were not making their normal output. Despite the fact that the price of copper has not increased greatly in 1922, smelters at Douglas, Hayden, Miami, Globe, and those near Jerome have been working at a moderate rate. The United Verde Copper Company has made noteworthy improvements at the plant during the

period of idleness, and a new smelting plant is promised for the Magma mine, in Pinal County.

The first six months of 1922 brought increased activity in the state's gold production, which will continue to increase in proportion to progress made by the copper mines toward a normal output.

An increase in the output of silver in Arizona can be expected when final figures are compiled for 1922, as the price of the metal is high and the output of copper bullion will be greater as the metal market improves. Shipments of ore and bullion increased during 1921 and probably will continue to do so as the newly opened smelters require silicious ore. An increase in lead output from Bisbee and Tombstone is expected for 1922 as compared with small production in these districts last year. No zinc ore was shipped in 1921 but evidences of activity are being seen in the Warren district.

California Gold Output Increases

California's mining industry has shown some progress during the past six months in extracting itself from depressed conditions, according to Charles G. Yale, who notes, however, that this improvement is mainly in gold mines, for the mining of other metals shows a decrease in output. During the first six months of 1922 the United States Mint at San Francisco and local smelters and refiners received from the mines of California $7,721,258 in gold, $371,140 more than during the first six months of 1921, when the receipts were $482,000 less than in the first six months of 1920.

The gold-mining industry is slowly recovering from the effects of the war, but a number of the mines still continue to work under restrictions and few large deep or placer mines are being started. The increase in the output of gold appears to be coming from an added number of small mines, both deep and placer, that are worked by their owners or lessees rather than from the properties of the larger companies, but the increase is mainly in the output of the dredges, more gold coming from the dredges now than from all the deep mines in the state. The ratio of increase in the output of gold from the deep mines is about 4 percent and that of the increase from the combined placers, including dredges, is 15 percent. The water supply for the hydraulic and other placer mines has generally been good, but it came a month or more later than usual, owing to cold weather and the packing of snow on the mountains, and this condition naturally reduced somewhat the receipts of gold from the placer mines early in the year.

Silver received by the mint and local smelters and refiners during the first half of 1922 amounted to $1,440,842, valued at $1 an ounce or $157,147 less than in the first half of 1921 when silver was valued at $1.09 per ounce. This decrease is due to the continued idleness of most of the large copper and lead-producing mines, from which much of the silver mined in California is derived.

The present conditions in the mining of copper, lead and zinc in California are not encouraging.

Idaho Shows An Improvement

Considerable improvement has been shown in Idaho's mining conditions during the past six months, according to Mr. Gerry. Increased optimism came to lead operators especially in June, when the price of lead advanced to 5.5 cents a pound, thus enabling several producers to join with the Bunker Hill, Morning and Hecla Mines, which had been furnishing almost the entire output during the period of depression.

Although no great change in the gold mining situation in Idaho has been noticed during the first half of the year, it is expected that new hydraulic operations may add considerably to the output of the immediate future.

Silver production for the current year probably will show an increase over that of 1921 as the price of lead is higher and several of the old producers are preparing to operate. Effects of freight rate reduction are being felt and labor conditions are reported as being more nearly normal. The copper output is showing slight increase, although mines in Shoshone County are still idle.

If lead mining conditions continue to improve as they have thus far in 1922 an increased output of lead will be made during the year, though the Hercules, Tamarack and Custer, and Callahan Lead-Zinc, have been idle half the year. Continued development work is being carried on in the zinc mines of the state but no shipments are being made.

Nevada Enjoys Increased Activity

The mines of Nevada, especially the silver mines, showed increased activity, according to Mr. Heikes of the Geological Survey. The copper mines are just again becoming productive; the zinc mines and most of the lead mines are at a low ebb, but the silver mines and most of the gold mines are rapidly returning to a normal output.

Production of gold in the state is not expected to increase in 1922, due to idleness of many of the mines throughout the first half of the year. The quantity of gold obtained from copper ore probably will be greater in 1922 because of preparation for active operation at the Ely mines. Encouragement was lent to the silver situation by steady increases in production reported from Tonopah, and by the opening of new ore bodies. The recent increases in lead prices and the reduced freight rates may create a larger output of the metal later in the year, much lead ore and concentrate already having been shipped under these improved conditions. A continuation in the rise of zinc prices also will be reflected in final production figures at the end of the current year.

Washington Slow In Reviving

The mines of Washington are not returning to normal production the early part of 1922 as rapidly as those of the other western states according to Mr. Gerry. The shipments during the first half of 1922 were unusually small but it is expected that even increases will be shown later in the year.

The value of the gold output may be increased by revival which is being slowly evidenced in the republic district.

The production of silver has been far below normal, a slight increase in silver from copper ores being reported however together with several scattered shipments of rich ore. The lead mines at Northport will probably become more active producers as the price of lead increases.

Oregon Conditions "Not Satisfactory"

Metal mining conditions in Oregon are by no means satisfactory at present, according to reports compiled by Mr. Yale.

The decided falling-off in gold production is due largely to the conditions of the dredging industry. Returns for the first six months of 1922 from the Powder River dredge, usually the largest gold producer in Oregon, show a drop of 30 percent from the corresponding period in 1921 and dredging on this famous property will come to an end in August for the ground is worked out. Despite the general situation, however, scattered indications of a turn for the better are being observed.

Colorado Mining is Reviving

Mining in Colorado showed some general signs of improvement during the first six months of 1922, according to Mr. Henderson. Cripple Creek, which produced $4,300,000 in 1921, continued production at exactly the same rate in 1922. Telluride maintained steady production and increased shipments of concentrate. Northern Gilpin County is showing more activity in development than it has for many years.

With the exception of Cripple Creek and certain parts of Gilpin County, future mining in Colorado is intimately dependent on the metallurgical treatment of zinc and the market for the metal, as the mining of zinc ores usually leads to the development of other ores. Certain mines that produce ore capable of separation into zinc concentrate and lead concentrate can not operate unless there is a market for the zinc concentrate. If commercial zinc can be obtained from certain ores and concentrates in other mines the metallurgical troubles at lead bullion smelters will be lessened and the penalty charges on such ores will be removed.

New Mexico Reports Improvements

Several large companies in New Mexico resumed mining during the first half of the present year and the general situation of the industry in that state is improving according to Mr. Henderson.

On April 1 the Chino Copper Co.'s 12,000-ton concentration-flotation mill at Hurley, which was closed April 12, 1921, was set in motion at 30 percent of its capacity.

South Dakota Sees Increase

The quantity of bullion produced by the Homestake and Trojan mines and several small placers during the first six months of 1922 indicates that the production of gold and silver in South Dakota for the current year will be larger than in 1921, according to C. W. Henderson of the Geological Survey. If the new south mill of the Homestake Company is in operation by September it is expected the production will be materially increased.

ACTION ON ALL ALASKAN OIL LEASING REQUESTS SOON WILL BE COMPLETED

DISPOSITION of most of the applications for oil and gas permits involving lands in Alaska will be made within a few weeks, according to an announcement by the General Land Office. From February 25, 1920, the date of the passage of the oil leasing act, to June 1, 1922, 926 such applications were received by the land office. Of these final disposition has been made in 558 cases by the granting of permits. In 32 cases the applications have been rejected.

Majority For Cold Bay Lands

About two-thirds of the applications are for lands located in the Alaskan Peninsula in the Cold Bay region, the remainder being scattered over the Katalla, Yakataga, Iliamna, Kootsaahoo, Seward, Wasilla, Anchorage, Aniashak, Lituya Bay, Young Bay and Kachewak Bay regions.

The applications, as a rule, are for the full area that may be granted under a permit—2,560 acres, and the entire area applied for is approximately 2,225,000 acres. Practically all of this land is unsurveyed, and, in most instances, the descriptions thereof, shown by metes and bounds, are very indefinite, so that the difficulties encountered in considering the applications, in view of the many conflicts which exist, may be readily seen.

On March 8, 1921, in order to expedite business, the department decided to issue prospecting permits without waiting for adjustment of possible conflicts, each permit having placed therein a clause requiring permittees to adjust the conflicts by agreement, or otherwise, within six months. On December 30, 1921, the department extended the time within which to comply with these requirements until July 1, 1922.

At the request of the parties in interest in the Cold Bay district, the General Land Office undertook to make certain surveys which, while made in part, have not yet been completed in the field, and consequently plats of survey are not yet available. However, from an unofficial map of the survey now in the General Land Office, it appears that lines of survey, duly monumented, have been run through what is known as the East and West fields of that district, sufficient to enable a tie thereto of the lands embraced in the various claims.

JOSEPH WOODBURY APPOINTED SECRETARY OF NEW MEXICO CHAPTER

JOSEPH WOODBURY, a native of Colorado and a young attorney of Silver City, New Mexico, was chosen by the Executive Committee of the New Mexico Chapter, American Mining Congress in a meeting July 15, to succeed Burton Bunch as secretary of that organization. Mr. Woodbury is well qualified for the work, having an insight into the technical phases of mining from a two years' study of mining engineering, and a long residence in the Breckenridge District, Colorado. He is thoroughly familiar with mining conditions in New Mexico, where he has lived for a number of years. His legal training will be of value.

The New Mexico chapter was organized in Silver City in October, 1920, and is the newest of the state subdivisions of the national organization. John M. Sully, manager of the Chino Copper Company's operations at Santa Rita and Hurley is its governor, and is also the Mining Congress vice-president for his state. He was named by the chapter recently as New Mexico's member of the Board of Governors of the Western Division.

WHOLESALE PRICE INDEX REVISED

THE DEPARTMENT of Labor has revised its series of index numbers showing changes in levels of wholesale prices by regrouping commodities, adding new articles and using the 1919 census for weighting in place of the 1909 census data. In former reports the Bureau confined an article to a particular group regardless of its fitness for inclusion also in other groups. Under the new plan articles under more than one classification are included in other classifications. For example, structural steel, nails, and other metal products used in building are included in building materials as well as in the metal grouping. In computing the general index number for all commodities such articles are counted only once to avoid duplication in the final result. All computations are carried back to 1913 for comparison with the pre-war standard.

The revised index number for May, 1922, on fuel and lighting is given as 216, metals 119, building materials 160, and chemicals 122, as compared to 100 in 1913.

ALASKA'S COAL—THE GREAT PERPLEXITY

Government's Field of Future Action Narrows as Private Industry Shakes Head at Proposal—National Safety a Large Factor—May Lead to Operation Under High Cost Only Further Development Can Prove Field's Value

By IRA L. SMITH

DISAPPOINTING RESULTS have come to the government's first intensive efforts to link private industry with development of Alaska's coal deposits on a large scale. The Lake and Export Coal Company, of West Virginia, has refused to undertake operations in the Matanuska field, following receipt of reports from its engineers who have made a thorough study of the situation and declare this development will involve such cost as to place it beyond commercial feasibility.

Only Two Courses of Action

Only two courses of action seem available for the government, now that the only commercial organization manifesting more than a mild interest in the possibilities of Alaska coal has turned away from the proposal to operate under a federal lease. The government either must offer to purchase Matanuska coal for naval use at so attractive a figure as to enable private industry to be assured against loss, or it must add $100,000 to the $1,300,000 already spent in development work and thus seek to bring to light a potential production which not yet has been assured.

That the government will make further determined efforts to turn the Matanuska fields to avail as a source of coal to furnish a supply for the naval vessels on the Pacific Coast is a certainty. Driven by strategic policies to develop such a supply, the Navy Department will bring every possible pressure to bear toward that end. This situation leaves the Interior Department, recently placed in administration of the work, in an extremely unenviable position: faced by necessity of accomplishing a given result, it has but a pessimistic outlook and insufficient inducements with which to undertake its task.

This negative situation is emphasized, of course, by the Lake and Export Company's decision to not undertake operations. This decision was reached only after a most exhaustive investigation of the field had been made. Shortly after supervision of the Alaska fields was transferred from the Navy to the Interior Department, it was announced by federal officials that the government would proceed under the policy that it had no right to "go into the coal business" and that development of the fields would have to be in the hands of private industry exclusively.

Director Bain, of the Bureau of Mines, was directly charged with the task of casting about for a private concern willing to undertake these operations. Although he approached several of the largest coal producing corporations in the country with the proposition, all but the Lake and Export Company summarily refused to favor it with more than even a casual first thought.

Corporation Saw Possibilities

Officials of the West Virginia concern, however, saw the presence of a possibility under which exceptionally good management and extensive capital might be turned into such efficient channels that the work might be made commercially profitable. Officials of the Interior Department, seeing this inclination and realizing that they probably would not meet it elsewhere, sought to induce the company to enter immediately into a leasing arrangement. The vague knowledge of the field's possibilities prevented agreement to this proposal, however, although the company was sufficiently attracted to send a corps of engineers to Alaska to investigate and make a report upon which final acceptance or rejection of the plan would be based.

These engineers made a close study of the work already done under the Navy's supervision, consisting of a laborious and costly pursuit of the erratic veins as they faulted and folded back and forth. The Navy had been unable to sink a straight shaft through to the bottom of the sincline, where drill holes indicate probable presence of a large body of coal, because this operation would cause the miners to "lose" the vein before they had reached the bottom of the U-shaped formation.

High Cost Per Ton

Under the system of mining dictated by the Navy, only one ton out of every three would be brought to the surface, according to approximate estimates. The remainder would be left in place until the operations had penetrated as far as possible, when the Navy would begin at the back of the mine and bring coal to the surface as necessity demanded, tearing down supports behind as the reserves were mined.

This procedure, necessitated by the Navy's desire to render the mine a veritable store-house of coal to be held

DR. BAIN OUTLINES RESULTS OF ALASKAN COAL INVESTIGATION

Dr. Bain returned from Alaska on July 26th and issued a statement relative to his investigations of Alaskan coal, part of which was as follows:

"While no immediate prospect exists for the shipment of Alaskan coal to outside markets, this fact should not be interpreted to mean that there is no coal in Alaska The coal which is sufficiently high grade normally to stand the cost of transport can, under present conditions and according to present knowledge, only be mined at prohibitive expense, while that which can be mined cheaply is too low grade to sell in competition with coals already in the market.

"Coal suitable for local industries and domestic consumption is present in abundant quantities and can be mined and transported to points along the government railroad cheaply enough to afford a most important assurance that the Territory can and will be developed.

pending an emergency, would force an industrial concern operating the mine to place practically all the overhead expense of the development which it would meet as the work progressed upon one ton out of each three. head expense of the development upon one ton out of each three which it would meet as the work progressed. To meet this expense, it would be necessary to place what would appear to be almost an exorbitant price upon the coal brought to the surface. Experts declare that a private company would have to receive at least $15 a ton for coal brought out of the mine if it were to "make both ends meet."

To cap the existing climax, the Interior Department finds itself constantly confronted by the fact that dilatory practices in connection with the Matanuska mine would result in conditions approximating utter destruction. Even a temporary abandonment would certainly result in a freezing of the water in tunnels and shacks, after which the mine would be "in about the same condition as those at Lens after the German occupation," to use the words of one authority.

This condition makes it evident that a definite policy must not only be initiated but diligently pursued in development work.

Thus, in the final analysis, the entire future of the field swings around the price which the Navy is willing to pay for establishment of a fuel supply upon the western coast. If the Navy Department informs the Interior Department that it is willing to pay $15, or whatever the figure may be, for the coal, and if the Interior Department can convince some industrial organization that this price will eliminate chances of financial loss, then the shaft may be driven through under private capital. Otherwise the Navy Department or Congress directly must furnish the Interior Department with sufficient funds to finance a continuation of development work. If neither of these courses are pursued, then the entire project will have to be abandoned, for none of the "shoestring" operators who might have hopes of developing a production for domestic consumption would be able to undertake the work with their limited finances. Abandonment would mean that approximately $1,500,000 had been tossed into "a hole in the ground" with no returns save the knowledge which would be brought to the Navy that emergency naval operations on the Pacific would find the fleet forced to draw its coal from the West Virginia fields through the Panama Canal or by rail across the country.

WORKING SUB-BITUMINOUS VEIN NEAR HEALY, ALASKA

These outcrops are located near the point at which the recently authorized spur of the government railway will join the main line. Plans are under way for further development of eight of the twelve beds which outcrop in the cliffs along the Healy River

Can Leave No Plan Untried

This situation would be so detrimental to the naval protection of the nation, experts declare, that no plan which might eliminate such a predicament can be left untried.

Recent tests recently conducted at the Sutton washery, located eighteen miles from the Matanuska operation indicate that the coal is of so high a grade as to place a wide margin above the naval requirements in its favor. These tests, which have been made by experts of the Bureau of Mines, under the observation of naval officials, have shown a loss in washing estimated at between 22½ and 40 percent under normal operating conditions, with the most expert opinion said to lean toward the lower figure as the most probable.

With the factor of the quality of the coal removed from consideration, it is all the more evident that there can be only one remaining element governing the situation, and that is "What is the Navy willing to pay for assurance of a coal supply on the Pacific Coast, or possession of the absoulte knowledge that it never will be able to secure sufficient production from the Matanuska field to place this supply at its disposal?"

So far as is known, the government has not decided upon its policy for future action in connection with further development work. The action of the Lake and Export Company has left the federal authorities temporarily suspended in mid-air, coming so decisively and well in advance of July 15, the date which the government had set within which the company was to announce its decision. Officials of the company state that they have not been approached by the government with any further advances or proposals, but strongly intimate that they will be unable to give their attention to any plan which will not assure them of an absolute protection against loss in operations. This protection, they are convinced, must be inspired by anxiety of the Navy rather than commercial ambitions if they are to be prosecuted to the limit.

The company simply has dismissed the entire matter with the knowledge that it has made an earnest and sincere effort which can go no further under present conditions. Since no other private concern capable of undertaking the work has evidenced a desire to consider the matter, there is nothing the government can do but to face the "show-down" and decide upon some radical initiation of policy.

Party Returning to Washington

Dr. Bain, who has been in Alaska for several weeks during which time he has been carefully observing the situation, sent his confidential report to Secretary Fall shortly before he left Alaska on his return to Washington. He reached Washington last week.

While in Anchorage Dr. Bain indulged in a frank statement of the situation in a speech delivered before the local chamber of commerce at a meeting which was attended by several hundred leaders of the territory's industrial activities. His statement that potentialities of the Matanuska field were being overestimated by many brought "consternation" to those present at the meeting, according to a newspaper report. There is not

enough coal in the Matanuska field to justify consideration of its shipment to the Pacific Coast markets, he is quoted as having declared in this speech, during which he also is said to have expressed the opinion that the government railroad must depend for its success on the development of tourist travel and on the growth of small industries.

Editorial comment sprang up in the Anchorage papers immediately after Dr. Bain expressed these views. "In his premise Dr. Bain is unquestionably sincere," commented the Anchorage Times, "and although his judgment is contrary to the advice from other departmental officials we must admit he is conscientious and believes he is desirous to assist. Contrary to popular opinion the Times does not believe that Dr. Bain has an influence; we do not believe he is biased in his opinion. Notwithstanding Dr. Bain's pessimism, we of Anchorage should not falter, but continue to believe in our town, our resources, the surrounding country that makes our town possible and especially in the broadminded officials who still administer in Washington."

Upon his return from Alaska Director Bain made the following statement with reference to the exploratory work done by the Navy at the Chickaloon and Coal Creek mines:

"A limited amount of high grade coal has been developed at the Chickaloon and Coal Creek mines. In the exploration of these fields the Navy Alaska Coal Commission has painstakingly pieced out the stratigraphy of these fields until there is now little doubt as to the facts in the ground explored. These facts are extremely discouraging so far as finding workable coal on the pitching limb of the syncline is concerned. Not only does the faulting interfere, but the intrusion of igneous rocks has destroyed much of the coal. In order to get out any tonnage, it would be necessary to mine discontinuous patches on several different beds of coal, in badly broken ground and to do a most unusual amount of dead work in rock. These conditions combine to make it virtually impossible to mine this coal at a profit and causes any consideration of what constitutes the actual reserve to become wholly theoretical. In the unexplored ground north of the present workings there are good reasons to hope for better mining conditions, but it will be necessary to do more work before this can be determined."

NEW AGENCY TO AID MINING INDUSTRY

REPRESENTATION of the mining industry in a distinct division of the Bureau of Foreign and Domestic Commerce in the Department of Commerce has been effected by creation of the newly established Mineral Section of the Iron and Steel Division of that agency. In keeping with the policy initiated by Secretary Hoover under which industry is furnished with clear cut channels through which it receives vital information from the government, this section will have as its principal aims the promotion of trade in all minerals and products thereof, excepting fuel, iron and those metals which enter into the manufacture of steel; the gathering on a more extensive scale of statistical information on foreign ores resources, as well as the production, consumption and export and import movement of foreign ores and their metals.

This policy is crystallized in the statement by officials that the section will bend every effort toward the exploitation in foreign markets of domestically produced minerals and their products. Thorough investigations will be made of opportunities for purchase or exploitation of foreign mining properties, and the results will be brought immediately to the attention of interested American buyers. The section will devote particular attention to refractories, such as fireclay magnesite, chrome, silica brick and clay products, except earthenware and pottery.

James A. Stader has been appointed the head of this section, which will be under the general supervision of Luther Becker, chief of the Iron and Steel Division. Mr. Stader, who took up his duties on July 1, 1922, is an experienced man in mineralogy, was selected for the position because of his general intimacy with the work, and also because of his extensive experience in connection with mining activities abroad both as regards actual development and the economic conditions surrounding production.

JAMES A. STADER

He is a graduate chemical engineer of the University of Missouri and possesses the technical training necessary to supplement the other talents he has gained through his extensive experience.

Following his graduation in 1906, Mr. Stader did mining work in Mexico. Subsequently he became chief engineer of the Eagle Pitcher Lead Company, Joplin, Mo., and later was made a member of the Central European Industrial and Mining Commission under the Supreme Council created under the armistice agreement. It was as a member of this commission that Mr. Stader greatly extended his knowledge of foreign mineral resources and their industries, his duties carrying him through the various mineral producing European countries.

Among the initial activities of the section will be compilation and distribution of data covering certain of the non-metallic minerals obtained through specific questionaires which were transmitted by the bureau some months ago to American Council officers, commercial attaches and trade commissioners. This information will be systematically distributed among the interested members of the American mine industries to guide them in their efforts for exploitation in foreign fields and markets.

WATER POWER AND THE SOUTHWEST

Bureau of Mines Official Points Out Benefits Colorado River Project Will Hold For Mining Industry—Transportation Extension a Large Factor—Girand Application Still Marks Time

IMPRESSIVE FACTS showing the stimulation which the mining industry of the southwest will derive from development of the water power resources of the Colorado River are contained in a communication addressed to Representative Philip D. Swing of California by F. J. Bailey, assistant to the director of the Bureau of Mines.

Of Vital Importance

"The Colorado River power project is of vital importance to the mining industry of the southwest," says Mr. Bailey. "Not only will it adequately supply the power needs of the mines but it promises to solve fully and satisfactorily the other major problems. Many of the large mine operators of that section have a vision of relief to come in the form of an industrial development immediately following upon the assurance of the availability of dependable electric power, which development will insure enough freight, in the form of valuable raw material such as copper, cotton, rubber and other agricultural products to warrant extension of the railroad from Ajo to the gulf." Extension of railway facilities in this manner is emphasized as a factor of large importance by Mr. Bailey. "Unfortunately," says Mr. Bailey, "the needs of the mining industry alone do not furnish sufficient urge to capital to undertake this development."

BOULDER CANYON ABOVE PROPOSED SITE OF DAM

A mighty reservoir would be created at this point by construction of the dam proposed as a part of the plan to develop the power resources of the Colorado River

"True conservation of the nation's resources demands that the mineral deposits should be developed and worked with the greatest economy and thoroughness. This can only be done with adequate highway, railroad and power facilities. This in turn demands enormous investments in improvements of a permanent character which will endure long after the mineral deposits are on the wane. It must be remembered that a mine is to be regarded as a wasting asset. Therefore, it is of importance to the mining industry that other industries be developed to fully utilize these transportation and power facilities, and thus maintain the volume of business and commerce of the territory as mineral production declines."

Operations Seriously Hampered

"Mining operations in this section, both large and small, are today seriously hampered by the increasing cost of coal, fuel oil, and gasoline; the increase in power costs is a matter of grave concern to the mine operator. Cheap and dependable hydro-electric power will stimulate prospecting and development; it will cheapen metal production in a large territory which during the year 1918 produced metals to the value of over a quarter of a billion dollars; it will put the small producer on equal terms with the large producer in the matter of power costs; it will open up possibilities of the electro-metallurgical treatment of low-grade ores which are at present unavailable on account of high cost of steam or oil-generated electric power, isolation, and other handicaps."

Mining interests in the southwest are reported to be urging the Federal Power Commission to act favorably on the application of James B. Girand for a license under the Water Power act, covering a power development at Diamond Creek on the Colorado River. In making this application Mr. Girand is understood to represent companies interested in a large way in the development of minerals in Arizona, New Mexico and California. The Federal Power Commission has extended until November 30 the preliminary permit covering Mr. Girand's application, but is withholding action on his application for license pending the determination of a general policy for utilizing the resources of the river.

Comment by Mr. Girand

Commenting upon legislation now pending before Congress, known as the Swing-Johnson bill, appropriating $70,000,000 for the Boulder Canyon dam. Mr. Girand, who formerly was state engineer of Arizona, declares that "building of the Boulder Canyon dam, as recommended by the Director of the Reclamation Service, and prior to the building of the Glenn Canyon dam, would be a calamity insofar as Arizona is concerned."

"Both the Glenn Canyon and the Boulder Canyon dam are below any possible point of diversion," he declares, "and either would receive only the waters which have not been used above. Now, then, with a reservoir at Glenn Canyon holding all the flood waters which could be liberated at a regulated flow of the river established to a minimum mean monthly discharge, it would mean that all the waters between the Glenn Canyon dam and an 'adequate' dam at Boulder Canyon could have the power extracted therefrom all of which would be within the confines of this state, and which has been estimated by Mr. O. C. Merrill, executive secretary of the Federal Power Commission, at 4,000,000 horse power."

COMPLICATED TAX ROUTINE IS CLEARED

Internal Revenue Bureau Amends Rule Covering Determination of Invested Capital—Defines Character of Evidence to be Presented in Support of Paid-in Surplus Claims—Specifies Data Appraisals Must Contain

A CLARIFICATION of the complicated situation surrounding determination by mining companies of their invested capital in connection with tax returns, has been presented in an amended internal revenue regulation just promulgated.

Innumerable difficulties have been encountered by these companies since 1918 in securing a proper determination of their excess profits tax liabilities to the federal government for 1917 and subsequent years. Many of these difficulties probably will be eliminated by the bureau's amendment of its regulations which clearly defines the character of evidence which will be considered in support of claims for paid-in surplus.

Basicly Responsible for Tangle

The substantiation of claims for paid-in surplus—the amount by which the actual cash value of assets paid in for stock or shares exceeds the par value of the original stock or shares specifically issued therefor—has been basicly responsible for many of the perplexing problems facing mining companies in their relations with the bureau. It is for this reason that a clarified definition of what the bureau demands as evidence is most welcome at the present time.

The amendment to the regulations set forth in definite terms the circumstances under which retrospective appraisals will be considered. A retrospective appraisal is in substance the opinion of experts based upon facts presented to them and as such is admissible as evidence of a paid-in surplus; but its value must depend upon the truth of the facts upon which it is based. Previously, many corporations have not been aware of the fact that they could use such appraisals in establishing their claims; and, since this evidence already has been accepted in many cases before the bureau, the practice of its presentation now will become more general.

The experience of the bureau's experts in handling claims for paid-in surplus during the past four years is crystalized in the following amended Article 836, Regulations 62:

Text of Regulation

"The paid in surplus allowed in any case is confined to the value definitely known or accurately ascertainable at the time the property is paid in. Evidence offered to support a claim for a paid-in surplus must be as of the date of the payment. It may consist, among other things, of (a) an appraisal of the property by disinterested authorities; (b) a certificate of the assessed value in the case of real estate, or (c) evidence of a market price in excess of the par value of the stock or shares. Opinion evidence, expert or otherwise, of the value of property as of a prior date will not be accepted.

"Retrospective appraisals submitted in support of a claim for a paid-in surplus will not be accepted in any case where other reasonably satisfactory evidence is available and in any case will be accepted only after rigid scrutiny and will be followed only to the extent to which their reasonableness is fully established. The property which was paid in is the basis of the appraisal, and the appraisal must reconcile the accounts so as to reflect accurately the actual value on the date as of which the appraisal is made and the depreciation sustained. Proper consideration must in all cases be given to depreciation and the expired and remaining serviceable life of the property must be shown.

What Appraisals Must Show

"To be acceptable retrospective appraisals must show: (1) the history of the business and manner in which the information or data was acquired; (2) the manner in which the appraisals were constructed; (3) the inventory on the date of the appraisal in detail; (4) the date of acquisition of all items remaining in the inventory as of the date of appraisal; (5) the elimination from the inventory of all items acquired subsequent to the date as of which the appraisal is made and how this was effected (all items, the date of acquisition of which cannot be definitely determined, should be listed separately and all the facts bearing upon the date of acquisition given); (6) the replacement cost at the date as of which the appraisal is made of each item accepted as on hand on that date determined upon competent data, with a statement of the method employed in arriving at such cost (estimates and general statements will not be accepted); (7) the rate and total amount of depreciation as shown by the books; (8) the rate and total amount of depreciation taken upon each item included in the appraisal for the purposes of the appraisal (if other than normal rates of depreciation are used the reason therefor and the method of computing depreciation must be fully explained); (9) the actual cost when ascertainable of each item included in the appraisal; (10) the book value on the date as of which the appraisal is made of all the items included in the appraisal, and (11) a detailed statement of all plant facilities and additions, represented by capital expenditures previously written off, which were still in use on the date as of which the appraisal was made and all the depreciation actually sustained or accrued on such items.

"No claim will be allowed for paid-in surplus in any case in which the addition of value has been developed or ascertained subsequent to the date on which the property was paid in to the corporation, or in respect of property which the stockholders or their agents on or shortly before the date of such payment acquired at a bargain price, as for instance, at a receiver's sale. Generally, allowable claims under this article will arise out of transactions in which there has been no substantial change of beneficial interest in the property paid in to the corporation and in all cases the proof of value must be clear and explicit."

REVENUE RULING ON INDIAN LEASES

THE INTERNAL Revenue Bureau has rendered a decision concerning the taxability of royalties from the sale of minerals on allotted and restricted Indian lands and as to depletion allowances thereon. The decision follows:

"Where a Quapaw Indian to whom allotted lands have been conveyed in fee by the United States by a patent containing restriction against alienation for a period of years receives rents and royalties under a mining lease entered into during the restricted period and in conformity with the provisions of the act of Congress of June 7, 1897, such rents and royalties are income, issues, and profits issuing out of the land and constitute taxable income within the meaning of the Revenue Acts of 1916, 1917, and 1918.

"Where minerals are extracted from allotted and restricted property under such a mining lease, the owner having received a patent to the land prior to March 1, 1913, is entitled to a deduction from gross income of a reasonable allowance for depletion based upon the value of the property for mineral purposes as of March 1, 1913. In cases where a discovery has been established a revaluation of such property must be made for the purpose of computing the deduction for depletion under the Revenue Act of 1918. The Bureau's former law opinion, insofar as it holds that the deduction for depletion, shall be based upon the value of the property as of the time when the Indian first had a salable interest therein, is revoked."

FACTS SHOW BASIS OF COAL LABOR TROUBLES

High Prices Paid in Mines Are Primarily Responsible—Men Ignore Other Labor Markets and Demand "Living Wages" In Return for "Part-Time" Work—Respect For Law of Supply and Demand Only Remedy for Chaotic Conditions

By JAMES F. CALLBREATH
Secretary, American Mining Congress

SUFFICIENT FACTS concerning the coal industry already are written in open books always ready for the public eye. What really is needed is an accurate interpretation of these facts to show where responsibility for the present chaotic condition rests.

Were the public to engage itself in an application to and analysis of these facts, the general attitude toward the entire situation would assert itself positively in a demand that labor conditions be remedied once and for all. More directly, the demand would be made that labor respect the law of supply and demand.

High Wages Unbalance Conditions

Price is the prime incentive to all service. The Far West, to resume its normal activity, can use two hundred thousand additional men at wages ranging from $3.75 to $5 per day, which wages are as high as the profitable operation of Western mines will permit. These mines furnish a ready local market for Western farm produce, and are the basis upon which Western industrial activity functions.

In the coal mining industry there are approximately a quarter of a million men whose service is unnecessary to produce the nation's coal requirements. If six hundred thousand men are available to do the work which four hundred thousand can easily perform, either six hundred thousand men must remain idle one-third of the time or two hundred thousand men must remain idle all of the time. As long as coal miners' wages are higher than those of any similar industry, these six hundred thousand men will refuse to accept employment elsewhere.

This unprecedented high wage level has been maintained at the demand of organized labor without consideration of the public interest for many years. Coal mining wage contracts have been so arranged as to terminate simultaneously to make possible the dictation of proposals and their forced acceptance by the operators under the misnomer of "collective bargaining." The American Mining Congress has not been delegated to speak for the coal industry, but it does represent the Western mining industries, and it does consider that the nation's welfare demands competitive wage scales as the result of actual bargaining, rather than a settlement induced by a suffering public helpless under the intimidation of and entirely for the benefit of a group of men united under the banner of the United Mine Workers of America.

We unhesitatingly and unreservedly approve President Harding's statements at Marion as follows:

"The foremost thought in the Constitution is the right to freedom and the pursuit of happiness. Men must be free to live and achieve. Liberty is gone in America when any man is denied by anybody the right to work and live by that work. It does not matter who denies."

"Governments cannot tolerate any class or grouped domination through force. It will be a sorry day when group domination is reflected in our laws."

An Ideal Foundation

These forceful principles furnish an ideal foundation upon which to predicate a settlement. Labor costs, in both coal and transportation, must be lowered or other industries must be advanced to establish industrial equilibrium, otherwise these other industries competing with 50 percent higher wages in coal mining, must suffer shortage of production with corresponding decrease in coal consumption to the point where non-union mines can supply their requirements.

Still more important are the constitutional rights of American citizens. The principle quoted from the President's Marion address, if put into effect, will solve the question of constitutional rights, preserve the dignity of the government and effect a permanent solution of the coal strike.

The first duty of the Government is to enforce the law; to furnish protection to every man willing to work; and to punish as severely as may be necessary all who interfere with or deny "to anybody the right to work and live by that work."

Cheap power, synonymous with national prosperity, will be available if the bituminous coal mining industry, with its 50 percent excess capacity is allowed to function and the law of supply and demand is not set aside by "class or group domination through force."

A Government guarantee of protection to every individual in his right to work will settle the coal strike menace for all time. We appeal for the enforcement of the law under the Constitution and for the protection of independent workers. By no other plan can a permanent settlement be secured—by no other plan can individual liberty be accomplished—by no other plan can the President's policy be consumated—and by no other plan can the future of our Government be so effectually guaranteed.

The several producing districts in the bituminous coal industry differ greatly in grade of fuel and cost of production and transportation, but it is particularly evident that widely differing conditions in the anthracite industry are such that a settlement of its controversy is in no sense analogous to that of the bituminous industry which would work upon the anthracite interests a grave injustice.

The Right of Every Citizen

We regard it as fundamental that every citizen should be permitted to work for whom and upon such terms as suit him, without intimidation or interference, and as a direct violation of Constitutional rights if the mine operators are forced to pay war wages, which cost must be transferred to all industries, thus creating a price level so high as to prevent exportation of American goods to foreign markets.

It is well understood that unless 5 to 10 percent of our total output is exported, the wheels of industry must be idle.

We recognize the urgent requirement of supplying the nation's coal. We believe the enforcement of the law, the protection of the individual in his right to work upon terms mutually agreed upon without intimi-

dation or restraint will provide all the coal necessary and immediately relieve the industrial exigency.

If the United Mine Workers' officials are permitted to advise striking miners that all who undertake to meet the needs of the Nation must be treated as "common strike-breakers" (another method of advising violence and murder), it will not be possible to secure an adequate coal supply except upon terms dictated by "class or group domination through force," which the President has so wisely said this Government cannot tolerate.

Supply and Demand Must Rule

The American Mining Congress asks in the name of the Western Mining industry, of the best interests of the nation, of the Constitution, that group domination through force shall not be permitted; that those responsible for acts leading to outrage and murder shall be held responsible, whether they be the President of the United Mine Workers of America, issuing instructions which lead to murder, or whether those who actually commit murder, be immediately punished and that the Constitutional rights of individuals in every walk of life shall be protected and that all the forces of the Government be utilized for that purpose.

Quoting again from the President's Marion address, "Liberty is gone in America when any man is denied by anybody the right to work and live by that work. It does not matter who denies."

The law of supply and demand must eventually regulate all industrial disputes. By no other process can the Constitution remain and the nation receive its food and fuel requirements.

TRADE COMMISSION SUPPLEMENTS REPORT ON BITUMINOUS COAL

The Federal Trade Commission transmitted to Congress detailed investment, cost, price, and profit tables, and explanatory material supporting statements and conclusions contained in its preliminary report in May on investment and profit in soft coal mining. The Commission points out the current usefulness of this information in consideration of bituminous coal prices as the investment per ton determined by it may be applied to estimated costs of production at present and to present prices, to enable coal consumers to determine the profit on investment which a given price will yield and to judge the reasonableness of the price. The report shows the average investment for the country to be $3.12 per ton, while in some districts it is less than $1 per ton and in others $8 or $9 and over.

For the Southwest Pennsylvania district the average investment is reported to be $4.26 per ton; Central Pennsylvania, $3.04; Kanawha, W. Va., $3.40; Kentucky No. 1, $2.21; Illinois No. 3, $1.94; Ohio No. 8, $3.56; Indiana No. 1, $1.44; Cherokee-Crawford, Kansas $1.19; Colorado domestic, $4.79, and Utah, $8.32. The Commission points out that to use this information on investment, it is necessary to have accurate and sufficient comprehensive information regarding current cost of production, selling prices and margins of profits per ton. In the use of such cost and profit data it says it is important to recognize wide variations in average costs of production, prices and profits of different mining districts and of wide differences in costs and profits for individual mining operations in a particular district.

The Commission further states that in order to have an intelligent criterion of prices and to attempt to fix prices or establish maximum limits, it is desirable that current and adequate information should be available as to cost and investment, particularly as to typical differences in cost of production and in investment for different mining districts. The report includes elaborate tables for the years 1916 to 1921 showing investments, costs, average prices, net margins and approximate rates of profits for the United States as a whole, for the 6 great mining regions by states, and by districts for 50 of the 74 mining districts of the country.

ADVISORY COMMITTEE TO COOPERATE WITH BUREAU OF MINES AT RENO

UNDER THE adopted policy by which the Bureau of Mines seeks a more intimate connection with the mining industry, an advisory committee composed of representative mining men has been appointed to cooperate with the staff of the Rare and Precious Metals Experimental Station of the Bureau, located at Reno, Nevada. This committee is one of a number of simliar bodies which have been formed to work with engineers of the bureau's various stations, primarily with a view to acquainting the government experts with the needs of the industry as regards investigational activities.

The Reno committee is composed of the following men: Frank M. Manson, Western Ore Purchasing Company, Reno, Nevada; R. A. Hardy, United Comstock Mines Company, Gold Field, Nevada; C. B. Lakeman, Nevada Consolidated Copper Co., McGill, Nevada; E. A. Julian, Gold Field Consolidated Mines Co., San Francisco; Gov. Emmet D. Boyle, Hinden & Boyle, Reno, and John G. Kirchen, Tonapah Exchange Mining Company, Tonapah, Nevada.

Tentative arrangements have been made for an organization meeting of the committee to be held either in San Francisco or Reno during the last week in August or the first week in September.

LAND OFFICES RESTORED—Although previously abolished in the Interior Department appropriation bill, Congress passed and the President approved a law continuing the following land offices for the year beginning July 1: Bellefourche, S. D.; Waterville, Wash.; Dickinson, N. D.; Del Norte and Sterling, Colo.; Clayton and Fort Sumner, N. M.; Harrison and Camden, Ark.; and Alliance, Neb.

SUCCESS ASSURED FOR CLEVELAND CONVENTION

Industrial Squalls Will Not Affect Results To Be Gained By Industry From Mining Congress Meeting---Twenty-Fifth Anniversary of Organization To Be Celebrated—Mechanical Exhibit Will Be Feature

WHERE MINING MACHINERY WILL BE EXHIBITED

The lower floor of the convention building at Cleveland, known as "Machinery Hall," is not only the most completely equipped exposition floor in the United States, but also possesses a distinguishing mark of beauty, furnishing an ideal setting for the National Exposition of Mines and Mining Equipment to be held October 9–14 in connection with the Annual Convention of the American Mining Congress

IN SPITE of strikes, industrial squalls, and other temporary vicissitudes, all present indications point to the fact that the Twenty-fifth Annual and Anniversary Convention of the American Mining Congress to be held at Cleveland, Ohio, October 9-14, will be a really national celebration of a quarter of a century of mining development.

Public Exhibits Assured

Representative displays of mineral resources and of governmental activity in the mine field will be attractive features of the meeting at Cleveland. The Republic of Mexico has formally accepted the invitation of the American Mining Congress to participate, and will place a large and representative display on the exposition floor. The Oil Shale industry will be represented by working exhibits assembled under the auspices of the Colorado School of Mines and the United States Government will be represented by the exhibit of the U. S. Bureau of Mines, by an exhibit of mine timber preservation by the Forestry Division of the Department of Agriculture and by an interesting display of the work which is being done by the United States Bureau of Foreign and Domestic Commerce of the Department of Commerce in the development of American trade and American interests overseas.

In addition to these exhibits there will also be, in all probability, representative displays from a number of the western mining states which are planning to send on attractive exhibits to Cleveland. The Territory of Alaska, California, Colorado, are among those which are definitely planning upon participation at the Cleveland meeting.

The Convention Program

In arranging the convention program an effort is being made to concentrate the work of the convention, and to emphasize only the vital problems of the industry. There will be fewer sessions and not so great a diversity of conferences as heretofore. The convention program will enable the delegates to participate in a thorough discussion and consideration of the important problem of the industry, to study and compare the exhibits of industrial machinery and equipment on the exposition floors and to enjoy a week made pleasant by many special entertainment features which will be real recreation.

Heretofore, too much emphasis has perhaps been laid upon the necessity of carrying through a large program

of hard work and too little emphasis has been placed upon the value of these annual meetings of mining men, as a place where friendships are renewed and new acquaintanceships made. Special entertainment features, therefore, are planned for the Cleveland Convention which will make it enjoyable and particular attention is being given to the entertainment of the ladies who attend the convention.

As a matter of fact, the Cleveland Convention is after all a celebration of twenty-five years of mining and it must be first and foremost notable, because it has been made enjoyable to the delegates who attend.

The central theme of the convention will be devoted largely to the problem of securing lower production costs; the excessive cost of government in this country; the standardization of methods and equipments as a means of eliminating waste; methods of preventing the further encroachment on individual freedom and initiative of governmental paternalism, the maintenance of silver and gold production and the problem of taxation, are some of the important topics at Cleveland.

Exposition "Keeps A 'Growin'"

The National Exposition of Mines and Mine Equipment "just keeps on a 'growin'." Since the first of July fifteen representative manufacturing concerns have been added to the list of exhibitors. At that rate, even the Public Hall with its sixty-five thousand feet of floor area will not be able to accommodate the displays.

Manufacturers of mine locomotives are especially well represented. There will be ten or twelve different types of electric and gasoline locomotives displayed on the exposition floors; the seven-ton locomotive of the Fate-Root-Heath Company, being a recent addition and practically every type of modern mine car will be exhibited, while the roller bearing manufacturers will, of course, be strongly in evidence.

The Public Hall in Cleveland is so beautiful a setting for an industrial exposition that the convention management is spending a good many thousands of dollars in order to place the booth fixtures and decorations for the exposition in keeping with the prevailing high standards. Both delegates and exhibitors will see a new building and a new set of settings, fixtures, and decorative effects.

The lower, or Machinery Hall Floor at Cleveland is especially attractive. It is not only the most completely equipped exposition floor in this country, but it is an unusually beautiful hall. With a high ceiling, eighteen feet above the floor, perfect illumination, and one hundred and twenty service outlets for electric power, compressed air, high pressure steam and other service facilities, the floor is almost ideal for the effective display of industrial machinery and equipment.

The community of Cleveland is thoroughly interested in this exposition and it is a community which believes in cooperation. Cleveland is whole-heartedly cooperating in carrying out the plans for this convention and exposition. Any mining man who fails to come to Cleveland to attend this meeting will regret it, for the convention and exposition at Cleveland will both be worthy of a great industry and of the twenty-five years of marvelous mining development which this great national gathering will celebrate.

HIGH-GRADERS TAKE LOOT TO CANADA; EFFORTS LAUNCHED TO HALT THEM

APPARENTLY HALTED in their practices of selling stolen gold bullion to United States mints under false pretenses, high-graders now are carrying their loot over the international border and selling it to the Royal Mint of Canada located at Ottawa, Ontario, thus evading the recent ruling put in force by the Treasury Department through the Director of the Mints, under which the United States authorities are taking special care to prevent the purchase of bullion which has been illegally obtained. These rulings recently were issued by the Director of the Mint, following representations made by the American Mining Congress based upon complaints received from western gold producers. The Mining Congress has brought the alleged international high-grading activities to the attention of the Canadian authorities, and it is expected that officials of the Ottawa mint will enter into a policy which should result in an end being put to the nefarious practices.

In this connection, efforts are being made to place a check upon all sales of bullion originating in the United States which has been sold to the Ottawa Mint since July 1, 1921. It is hoped that this check will be obtained through knowledge of the name of the depositor in each instance, his address, weight and description of the deposit in ounces, gold and silver fineness, total value of each lot and date of settlement, and the name of party to whom settlement was made.

Irregularity of procedure is indicated in a record of shipments made to the Royal Mint of Canada from Colorado, totaling several thousand dollars and forwarded during the past five months. The Denver mint, being located a very short distance from where the above mentioned bullion was shipped, the shipper, if handling bullion lawfully, would not have occasion to seek a market at such a great distance and expense, close observers of the situation declare. Those who have filed complaints use these evidences of irregularity as basis for the presumption that the Canadian mint is being patronized to aid in evading the filing of names of mines producing the bullion, their location and other details as required by the United States Treasury Department ruling.

Using the information which has been requested of the Canadian mint and combining it with details secured concerning shipments from points in the United States, those who are handling the situation hope soon to be in a position to place the entire matter before the proper authorities in an attempt to stop the imposition upon the Canadian authorities, whose organization for purchasing bullion is being used, it is said, as a "fence," as the United States mints were for many years.

REVISED FEDERAL OIL SPECIFICATIONS WILL SOON BE ISSUED

SUGGESTIONS for the revision of governmental specifications for gasoline, kerosene, lubricating oils, fuel oils, and other refined petroleum products, contained in Technical Papers 305 and 298 of the Bureau of Mines, were considered at the third annual open meeting of the Interdepartmental Petroleum Specifications Committee, held in Washington, D. C., July 3. Mr. N. A. C. Smith, petroleum chemist of the bureau, presided.

Dr. T. H. Delbridge, chairman of the advisory board, which was formed a year ago to act as a medium of contact between the committee and the various industries interested in the matter of petroleum specifications, presented a number of detailed criticisms, which were supplemented by others present. The committee plans to take action on these recommendations and to promulgate revised specifications very shortly.

FORD OFFER FLAYED BY SENATE COMMITTEE

Appeal to Agricultural Interest Through Specious Promises Condemned — Misleading Propaganda by Real Estate Speculators Resented — Ford's Proposal Would Mean Gift of $14,000,000,000 to His Corporation, Analysts Declare

The angles of the Ford offer which are of public interest have been thoroughly considered by the Senate committee on agriculture, which, through its chairman, Senator G. W. Norris, of Nebraska, has issued a majority report. Important excerpts from this report constitute the following article.

THE COMMITTEE on agriculture and forestry has had under consideration the various bids and bills referred to it by the Senate in regard to the Government-owned property at Muscle Shoals, Ala. After extended and unlimited hearings the committee decided to reject all of the bids and all of the bills before it.

This report is a majority report, so far as a rejection of the bids is concerned, but is concurred in only by a minority so far as S. 3120, a bill to provide for the manufacture of explosives for the use of the Army and Navy, to provide for the manufacture of fertilizer for agricultural purposes, to incorporate the Federal Chemical Corporation, and for other purposes, is concerned.

All of the bids except that of Henry Ford were unanimously rejected. Upon the bid of Henry Ford the committee stood seven in favor of its acceptance and nine in favor of its rejection. On the question of the Ford bid this report is concurred in by the following:

Senators Norris, Page, McNary, Keyes, Gooding, Norbeck, Harreld, McKinley, and Kendrick.

THE PRESTIDIGITATOR'S FIRST REQUEST

During the World War it became very apparent that one of the worst difficulties which which the United States would be confronted in case of war, would be its inability to supply itself with sufficient nitrogen to make the necessary explosives.

To extract nitrogen from the air under any known process requires a large amount of power, and it was with a view of getting our country in a condition where it would be able to supply itself with this necessary product that Congress, on June 3, 1916, passed the national defense act.

In selecting Muscle Shoals as the location for this great work the President undoubtedly had in mind two very important considerations: First, that Muscle Shoals is located far inland, where it would be free from attack in case of a foreign war, and, second, where an abundance of cheap water power could be developed and fertilizer manufactured in time of peace.

When it was decided to locate this plant at Muscle Shoals it became very important to secure some source of power for the purpose of carrying on the vast building operations that were necessary. In order to secure this power the government entered into an agreement with the Alabama Power Co. This company has a steam plant located at Gorgas, the mouth of a coal mine, 90 miles south of Muscle Shoals.

The total expenditure of the government in connection with these improvements at Gorgas was nearly $5,000,000. A contract was entered into by which the government agreed, when its Muscle Shoals plant was completed, to sell to the Alabama Power Co. its interest in the Gorgas plant.

The Gorgas plant has been well likened to a scrambled egg. All the property is on land owned in fee by the Alabama Power Co. It is located at mouth of the coal mine, likewise owned by the Alabama Power Co. The enlargement of the main building was done at the expense of the government. There are other buildings where the government built the building and the power company put in the machinery. The railroad use in the operation of the plant was partially constructed by the Alabama Power Co. and in part by the government. The buildings in which the employes are housed are part of them owned by the power company and part by the government. Thus, in a promiscuous fashion, the government will own one residence, the power company the next one, and, perhaps, the next one is owned by the government. There is no doubt but that any honest man, looking over this situation, would conclude that the entire plant ought to be owned by the government or it ought to be owned by the Alabama Power Co.

In the contract originally made with that company the government agreed it would not sell its interest to a third person. The Alabama Power Co. is contending that the clause in the original contract by which the government has agreed to sell its interest to the Alabama Power Co. is legal and binding, and that whatever the legal difficulties are or whatever the final outcome may be, there will be serious and almost unlimited litigation if the government undertakes to sell its interest to any third person.

The most important consideration of all is the production of materials for explosives in time of war. If it were not for this, we would not have the Muscle Shoals problem to solve. It is, first of all and above all, a war proposition, and as such we could not under any circumstances think of destroying nitrate plant No. 2 until

scientists develop some cheaper and better way of extracting nitrogen from the air. We must maintain this plant in readiness for any emergency, regardless of the fact that the extraction of nitrogen from the air by the cyanamide process is very expensive.

Until some new and better method is devised, and as long as war between nations is even a possibility, the nitrate plant must be kept in running order, so that it can at a moment's notice be put in operation to its full capacity. While we maintain nitrate plant No. 2 we ought to use all reasonable efforts in the way of experimentation to improve the method of extracting nitrogen from the atmosphere. For this purpose we should utilize nitrate plant No. 1, which will require only five or six thousand horsepower to operate.

Process In Its Infancy

It is firmly believed by all students of the subject that the process is yet in its infancy, and that means will be discovered to cheapen the process and make it unnecessary to maintain such a large investment and such a large plant in a stand-by condition, as nitrate plant No. 2. Until that time comes, if it ever comes, no one can deny that regardless of expense nitrate plant No. 2 must be maintained in a stand-by condition, ready for any emergency.

In considering the bid made by Mr. Ford we ought at the beginning to realize that Mr. Ford makes no proposition by which he is bound in any particular as an individual. His proposition is that he will organize a corporation with a capitalization of $10,000,000, and it is with this corporation that the government must deal if it accepts Mr. Ford's offer. There is no agreement or even implication that Mr. Ford will retain control of this corporation, even during his lifetime. He would not violate his bid if in the organization of the corporation he did not own any of the stock. Neither would he violate his proposition either in letter or in spirit if after the organization of the corporation under his control he should at once sell part or all of his stock.

Vast Amount of Prosperity

The property to be conveyed in fee to the Ford corporation consists of all of the property at nitrate plant No. 1 and its steam power plant, all of the land connected with it, all of the buildings thereon, all building material, machinery, fixtures, equipment and appurtenances, tools and appliances; likewise all the property owned by the United States at nitrate plant No. 2, including its steam power plant, all of the land and the buildings thereon, the material, machinery, fixtures, tools and equipment, and personal property of all kinds and description owned by the government; all of the land and the machinery owned by the government at Waco quarry, together with all the buildings, machinery, railroad tracks, tools, engines, cars, and all other property located at and connected with the Waco quarry.

The government will also convey its interest in the Gorgas steam plant, located 90 miles south on the Warrior River and heretofore described, and also the transmission line from that plant to Muscle Shoals.

It is well to describe somewhat in detail the property that is thus to be conveyed to Mr. Ford. In the aggregate, it has cost the government of the United States nearly $90,000,000.

In consideration of the transfer by warranty deed of all of this property, the Ford corporation proposes to pay the sum of $5,000,000. If such a proposition were made to a minor who owned such valuable property, and the conveyance were made in accordance with the offer, there is no court in Christendom but what would promptly set aside the conveyance as having been obtained for want of consideration.

Let us see just how easy this corporation of Mr. Ford could pay the $5,000,000 and still be the owner in fee of all of this valuable property.

The goveriment now has an offer in writing from the Alabama Power Co. to pay $2,500,000 for the interest of the government in the Gorgas plant and the transmission line.

The president of the Alabama Power Co. testified before the Senate Committee on Agriculture, in substance, that the Alabama Power Co. would raise its bid for the purchase of the government's interest in the Gorgas steam plant. He said that if the government felt it ought to receive $3,000,000 instead of $2,500,000, that the company would pay it. If the Ford corporation, therefore, got the property at its figure it could the next day sell its interest in the Gorgas plant for $3,000,000.

In addition to that, it could sell the personal property consisting of various kinds of building materials, which has a ready sale at a market price, and which is of no use whatever in the operation of the Gorgas plant, for enough money to pay the balance of the $5,000,000 consideration.

Could Make Other Sales

In addition it could sell some of the engines, cars, and various classes and kinds of used lumber and building material, for which there is no further use in the operation of any of the plants, and secure a million or so of capital for the operation of the plants.

Also, if this corporation needed more money for operating capital, it could sell on the market on one day's notice $500,000 worth of platinum.

The corporation could proceed at once to sell lots and engage in the real estate business. It could, if it desired, lease the large 100-room hotel, and one or two bachelors' quarters, that are now located on some of the government lots beside leasing a large number of the permanent residences that it would acquire, and thus secure a steady income to enable it to carry on in a more extensive scale whatever operations of a commercial nature it desired to engage in.

It is true that this corporation, by Mr. Ford's bid, is obligated to operate nitrate plant No. 2 to its full capacity, but there is no obligation to sell fertilizer or fertilizer ingredients at any fixed price. There is no agreement that the cost of fertilizer shall be reduced one penny, either to the farmer or to anyone else. Contrary to the general opinion that the real estate speculators have so assiduously spread over the country, this corporation not only does not agree to sell fertilizer at a reduced price, but there is provided in its contract an agreement that on the fertilizer operations it shall have the right to make 8 percent profit.

Country Would Have To Pay

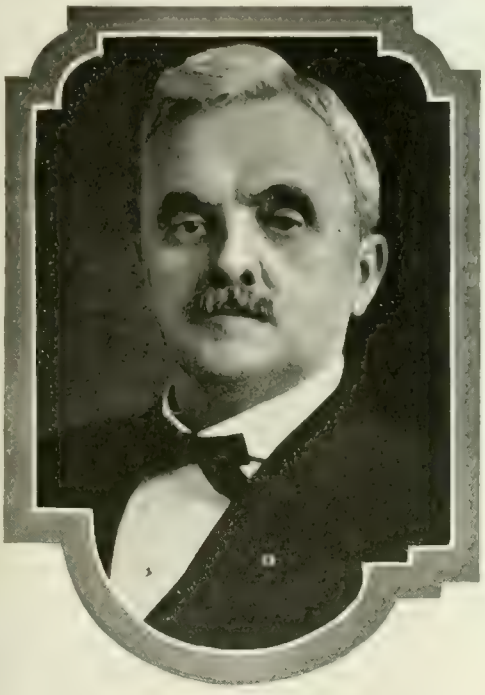
The fact remains, however, that while we might turn this property oved to the Ford corporation in absolute fee for less than nothing, if in case of war we commandeered it we would have to pay, as the government always does, every dollar and every cent that could possibly be shown to constitute any value; and if the country develops, as it probably will, it would mean that the government, in getting the property back for war purposes, would have to pay not only the value of the property now but an enhanced value, which would probably mean three or four hundred million dollars.

The corporation not only does not agree that the property in case of war shall be turned over to the govern-

ment at the same value that the government turns it over to the corporation, but it specifically provides not only that the government must pay for its use but it must pay for any damages that would accrue to the corporation by reason of its taking over the property.

Mr. Ford's offer is that Dams No. 2 and No. 3, when completed, together with all of the abutting property, shall be leased to this corporation for a period of 100 years. This provision of itself ought to be sufficient reason for the unqualified rejection of the offer. The question of the development of water power on our navigable streams has received a great deal of attention at the hands of Congress. For a great many years the question was debated not only in Congress but all over the country. The discussion finally culminated in the passage of the existing water power act, which fixed the leasing term at 50 years.

To lease this valuable water power to this corporation as proposed in the Ford offer would in effect repeal our water power act. If this offer is accepted, it will be unfair to the water-power men who, after the long fight over the conservation of our water-power resources, have accepted the water power act. It makes the water power act in effect a scrap of paper. We must take human nature as it is, and it is practically certain that every corporation that has heretofore made leases under the water power act for the development of water power will be clamoring at the doors of Congress for a modification of their leases and the extension of the time from 50 to 100 years. And why should they not? If we make a 100-year lease to Mr. Ford's corporation, are we not in honor bound to make a 100-year lease to Mr. Rockefeller's corporation? It can not be claimed in defense that we can afford to do this because of the confidence which the American people have in Mr. Ford and the lack of confidence they have in some of his comultimillionaires. We are not dealing with men; we are dealing with a corporation as unrestrained and as unlimited and as unregulated as any pirate that ever sailed the seas.



SENATOR GEORGE W. NORRIS
Chairman of the Senate committee on agriculture through whom that body's majority report rejecting Mr. Ford's Muscle Shoals plan was presented to the Senate

The wonderful propaganda that has been carried on over the country in favor of the Ford offer has led the people to have an entirely erroneous idea as to what the Ford offer really is. It is difficult to harmonize our idea of Mr. Ford's fairness with his silence on this subject, when his name is so often used in exaggeration and misrepresentation as to just what he does offer to do. The country has been given to understand that Mr. Ford has guaranteed to reduce the cost of fertilizer by one-half. He has done nothing of the kind. He has made no guaranty of any kind in the way of the reduction of the cost of fertilizer. The country has been given to understand that he pays the government 4 percent interest on its investment in the two dams. He does nothing of the kind. He has not made any such offer and no such proposition is included in his bid. Giving his corporation credit for every dollar that it pays, he will be paying to the taxpayers less than 3 percent on the money which he uses out of the Treasury of the United States, and when we consider that this loan runs for 100 years it requires even the stretch of the imagination to understand the enormous profit that his corporation secures in this one item alone.

Assuming that a fair interest rate in the commercial world is 6 percent, this would give his corporation during a hundred-year period a total gift in cold cash of $236,250,000, and if this money were compounded, as Mr. Ford asks the government to compound what he pays, the profit to the corporation at the end of the 100-year period would be $14,500,000,000. This is more than half our total cost of the World War.

The country has been given to understand that the Ford offer provides for the repayment to the government within the 100-year period the entire investment that the government has made. His offer does nothing of the kind. On the other hand, the total payments included in the offer of both interest and amortization, amount to less than 3 percent on the investment and he never pays one dollar of the principal. The people of the country have been led to believe that the Ford offer means a reduced price for electricity to the consumer. It means nothing of the kind. He has not agreed to furnish a single kilowatt to any home or to any manufacturing concern except his own. The great city that is to spring up as if by magic will probably have its streets and its homes lighted by electricity generated from coal that is shipped in on the railroads. The mighty power at Muscle Shoals will be devoted entirely and exclusively to the use of the great corporation which Mr. Ford will organize.

When we bring together the results that must follow from these two divisions of the Ford offer, the mind is dazed at the unreasonableness of the proposition, at the enormity of the gift. With the expenditure of no money, there is turned over to a corporation property of the value of more than $100,000,000, and the right and privilege to extort unjust profits from the citizens of this country without limit. Money is furnished by the unwilling taxpayers of the country to construct improvements of millions in value and to finance operations on the most gigantic scale in history, not for the benefit of the people but entirely and exclusively for the benefit of one corporation. The inheritance of our children and our children's children is mortgaged, and the resources of our country are not only given away but with the gift is tied up cheap money, obtained at the expense of the taxpayers, and the right to use it with but little recompense for 100 years time. There is nothing in the history of the world with which this can be compared. Civilization is without a precedent. If the Ford offer is accepted then the fight for conservation that has been waged by public-spirited and patriotic men and women all over the country is not only lost and given away but those who are unwillingly compelled to make the gift are to be taxed 100 years to make the gift more profitable. It is the greatest gift ever bestowed upon mortal man since salvation was made free to the human race.

INDIAN LEASES INVOLVE VITAL POLICY

Decision By Interior Department on Royalty Rates Holds Destiny of Quapaw Lead and Zinc Properties—Farsighted Policy Can Remedy Conditions Created By Re-Leasing Practices of Past—Twenty-Eight Offers In Answer To Call For Bids

ONE OF the most delicate points of policy presenting itself to the Interior Department for consideration in connection with the government's supervision of natural resources has arisen out of the situation surrounding development of lead and zinc mining properties on the Quapaw Indian lands in Oklahoma.

Issue Demands Close Study

Officials of the department recently have been devoting a great deal of attention to the points upon which awards are to be made on bids submitted for development of these properties under lease by the government acting for the Indian owners. The exact issue is whether the awards shall be made on a high or low royalty basis. Following the opening of the bids all indications pointed to adoption of a far-sighted policy under which the government might award a lease at a comparatively low royalty rate to insure the most efficient development of the properties and extension of operations beyond a point which would be impossible where the development could carry the overhead expense of a high royalty.

The lead and zinc industry represented in these properties has been thrown into a condition bordering on the chaotic during the course of the past ten years, it is declared by officials, who attribute this situation to the high royalty rates which have been built up through a constant succession of sub-leasing activities. Parties who first negotiated with the Indians ten years ago for leases of these properties entered into the field with highly speculative motives, it is stated by observers reviewing the situation, who point out that although the leases originally were given under a 5 percent royalty the rate was built up by speculative sub-leasing until it reached 20 or 25 percent. This pushed the cost of operations so high it is said as to prevent efficient operation, since only the richest ores could be handled, with the result that a practical development of the entire deposits has been impossible. High prices during the war came as a sole relieving factor in the situation it is being pointed out and since these peak prices have disappeared the industry in these particular fields finds itself depressed.

Bids Cover Six Allotments

Twenty-eight bids have been received by the department in answer to its request for offers covering operations on the six allotments of the Quapaw lands.

It is understood that the bids of Geo. W. Beck, jr., Geo. W. Beck, jr., et al, S. C. Fullerson and W. W. Dobson, and the Eagle-Picher Lead Co. are upon the basis of the allotments as a whole, as covered by their bids. Some of the bids contain limitations or modifications of the terms and conditions of the department specifications.

The list of bidders and their offers follows:

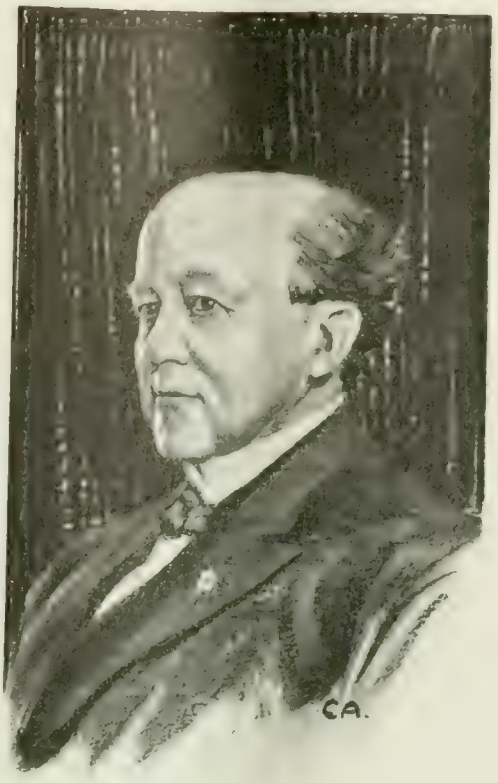
Tract	Bidder	Royalty Percentage Offered
Harry Crawfish Allotment		
Picher-Crawfish	Geo. W. Beck, Jr., et al	12½
Oko	Oko Mining Co	10
	Geo. W. Beck, Jr., et al	10
Cosmos	Lucky Kid and Lucky Extension Mining Companies	10
	Geo. W. Beck, Jr., et al	12½
Jeff City	Jeff City Mining Co	10
	Geo. W. Beck, Jr., et al	10
Defender	Geo. W. Beck, Jr., et al	10
	Jeff City Mining Co	10
Harry Crawfish Allotment	Eagle-Picher Lead Co	10
Eudora Whitebird Allotment		
Keltner	Keltner Mining Co	7½
	Geo. W. Beck, Jr	10
Beck	Geo. W. Beck, Jr	10
Black Eagle	Black Eagle Mining Co	10
	Geo. W. Beck	10
Whitebird	Whitebird Mining Co	10
	Geo. W. Beck, Jr	10
Eudora Whitebird Allotment	Eagle Picher Lead Co	10
Joseph Whitebird Allotment		
Hunt	Hunt Mining Co	8
	Geo. W. Beck, Jr	10
Cortez	Cortez Mining Co	10
	Geo. W. Beck, Jr	10
Underwriters Nos. 2 and 3	Underwriters Land Co	7½
	Geo. W. Beck, Jr	12½
	Geo. W. Beck, Jr. (alternative)	15
Joseph Whitebird Allotment	Eagle-Picher Lead Co	10
Mary Whitebird Allotment		
Picher Whitebird	Geo. W. Beck, Jr., et al	12½
Picher Swift	Geo. W. Beck, Jr., et al	12½
Blue Ribbon	Geo. W. Beck, Jr., et al	7½
Commonwealth	Commonwealth Mining Co	10
	Geo. W. Beck, Jr., et al	12½
Victory Metals	M. R. Lively, Trustee	7½
	Geo. W. Beck, Jr., et al	7½
Mary Whitebird Allotment	Eagle Picher Lead Co	10
	Geo. W. Beck, Jr., et al (alternative)	15
Slim Jim Allotment		
American Beauty	C. S. Bankard, Trustee	7
	S. C. Fullerton and W. W. Dobson.	10
Golden Rod No. 5	Golden Rod Mining and Smelting Corporation	7½
	S. C. Fullerton and W. W. Dobson.	12½
Premiere	Kanok Metals and Tri-State Mining Companies	10
	S. C. Fullerton and W. W. Dobson.	12½
St. Joe	St. Joseph Mining Co	10
	S. C. Fullerton and W. W. Dobson.	12½
Vantage	Vantage Mining Co	10
	S. C. Fullerton and W. W. Dobson.	12½
Von Weise	Temple Chapman	10
	S. C. Fullerton and W. W. Dobson.	7½
Slim Jim Allotment	Eagle-Picher Lead Co	10
Sin Tah Hah Hah Allotment		
Howe	Howe Mining Co	7½
	S. C. Fullerton and W. W. Dobson.	10
Lucky Syndicate	Lucky Syndicate Mining Co	10
	S. C. Fullerton and W. W. Dobson.	12½
Ohimo	S. C. Fullerton and W. W. Dobson.	7½
Producers-Hopkins	John A. Bloomington	8
	S. C. Fullerton and W. W. Dobson.	10
Piokee	Piokee Mining Co., S. C. Fullerton and W. W. Dobson	10
Sin tah hah hah Allotment	Eagle-Picher Lead Co	10

Woofing and Warping

IX. Senator Atlee Pomerene

A Series of Scrutinies Directed Toward Notable Legislative Personalities

By IRA L. SMITH



Atlee Pomerene

SOFTLY WENDING his way o'er the Congressional lea, the senior Senator from Ohio, one Atlee Pomerene by name, awaits the approach of the next Presidential election with a confidence that reposes firmly in an implicit faith that the theory of predestination is the original real stuff. For he was born in Ohio, and why should he be anything else than President if it so suits his fancy to drag down four years of free rent at the big White Shack.

Really, between us girls, he is riding on the hump of quite a boom calculated to make him the boss of this our fair country. Not having taken a peek at my crystal glass since the first of the week, however, I can't say as to how he'll come out. But one thing is as certain as the tongue in your head—he possesses scads of the stuff that breeds confidence within those whose path he crosses. He totes around nine million dollars worth of impartiality, and this, coupled with the quiet and deliberate way in which his mind lays one foot down ahead of the other, gives him the edge on the shooting-star type of legislator.

So it comes that, although he is so much the Democrat that you can see the reflection of a mule in his eyes, he is such an idolator of facts that folks living on the other side of the political fence trusted him enough to accept him as fifth man on the committee that ran an eye up and down the list of campaign expenditures back in 1920.

His head is his trade-mark. Bulged 'round like that of a boy prodigy, it leaves no room for doubt that it possesses brains which have enabled its owner to ramble off with so many college degrees that they've almost been forced to rig up some new ones to keep him going. The suburbs of his pate carry a fringe of hair that calls to mind memories of a fellow by the name of Bill Bryan whose brother just recently ran for the governorship of Nebraska.

Early in his life, he was parboiled in a strong solution of law. He soaked up so much of it that the chances are if he were to be split from head to toe one full, complete and unadulterated legal library would come tumbling out.

His speech moves with the graceful motion of tree tops gently yielding before lazy breezes. Although I don't hop into the old sackcloth and ashes on any save the greatest provocations, I really am sorry he doesn't get a chance to ease his words out more often to flavor with a tinge of delicacy the air that is whirled and churned into a seething mass by the verbal torrents poured out by some of his arm-waving colleagues.

A night watchman in an ice house is about six times as apt to break out with enthusiasm as the gentleman from Ohio. That's why I hardly can dope how he is the baseball fan they do be telling me he chances to be. I can much easier picture my boarding house lady climbing Pike's Peak than visualize him jumping to and fro and demanding the blood of an umpire.

So far as I know, the major part of the relaxation comes in purring along over Washington's asphalt in an electric coupe. Which, perhaps, gives him as much of a thrill as the higher-geared mortal would get from spending a six months' vacation on the tail of a comet.

Summing up the impression he doles out generally, I venture it is much like that created by a grey sky of dawn through which streak the red rays of sunlight.

And if he fails to make the grade leading up to the Democratic nomination in 1924, it will be because there are too few streaks of flash in his rather deliberate personality.

STRIKE SETS JAWS A'WAGGING IN CAPITAL

Coal Situation Inspires Gab Galore—Conferees Make Gang That Built Tower of Babel Sound Like Graduating Class of Deaf and Dumb School—Each Single Soul Suggests a Remedy

By Melville Montague

WASHINGTON is getting a real kick out of the coal strike. Although there isn't a smoke stack in the town and dinner pails are scarcer than Eskimo Pies in Iceland, the nation's capital is up to its ears in the controversy. Naturally enough too, for when there is something ailing with the public weal, the whole country twists its neck around toward Washington and looks for some sign of relief.

The Woods are Full of Conferences

By more or less of an actual count, there's been something like two million conferences on the coal situation staged in Washington during the past fortnight, as they would say in London. It's actually reached the point where society folds its nose back at you if you aren't a conferee. For a while there were so many fellows trying to talk to each other that there wasn't room for them to get together, and lots of them had to be content with going down the street mumbling to themselves.

The heart-rending part of the entire affair, so far as the newspapermen were concerned, held forth right after the President called the rival conferees to meet him under one roof. He told them to hang lead weights on their tongues so far as talking for publication was concerned. The result was that they came out of a whole string of conferences wagging their heads like so many country gentlemen crossing Fifth Avenue at Forty-second Street. Getting news out of them was like interviewing a choice collection of Egyptian mummies.

Oh! What A Bedlam

After many days, during which the aching silence was broken by nothing else than about a million outsiders' voices babbling out baseless conjectures into the conjecture-jammed admosphere Mr. Harding lifted the lid. And everybody's been talking harder ever since. This jabbering that's been going on would make the gang that worked on the Tower of Babel sound like the graduating class of a deaf and dumb school.

Now with the climax of the strike busting along toward the present at one almighty gait, it seems that everybody is indulging in the popular pastime of trying to dope out what is going to happen or offer remedies for the situation.

Says Bridget to Delaney

Just for instance, look at what I eavesdropped into the other day when I overheard our cook talking to the policeman on the beat.

"Sure an 'tis over-develoopment of the indoostry that's a'makin' of all the trooble," says Bridget. "If it weren't for all of that, faith and everything waud be as paceful as the boosom of the River Shannon itself."

" 'Tis as right as I am that you are," answers Delany, "but what is it that you'll be a'doin' to mend the bloody mess?"

"It's like my dear Patrick would be a'sayin' if he were here alive, bless him: 'Faith and you've got to be a'payin' your finest respects to the law of supply and demand.' Which is what the coal miners as belong to the union are as far away from doin' as I am from the Ould Sod itself.

"What they're aimin' at is to be a'makin' as much by workin' half a year and gettin' a half year's vacation as the like of you and I might be gettin' by workin' the hides off our fingers with nary a shade of rest for all of it.

Two Doors This Side of Paradise

"If the leaders would be a'takin' of a decent wage scale, as many of them as there are laddies on the force would be a'lookin' to other kinds of work for their earnin's, and those as stayed in the pits would work steady and get more than they can ever pocket with things in the mess that they are."

"Sure and then what?" queries Delaney.

"With the pits usin' no more men than they need, coal wouldn't be bearin' the cost of keepin' thousands of miners a'loafin' half the year; coal would be at a decent penny, and indoostry and the railroads would so have their expenses cut and be a'usin' of more and more coal. And the men as left the pits would be in these other indoostries and a'makin' money out of the prosperity."

"Faith and you're right, Bridget," says Delaney. "And come to mind I never in my life was hearin' of coal miners leavin' their jobs that they claims is so tough, and I'm supposin' its because they's got it so cushy there, a' workin' in the pits and gettin' paid a year's wages for half a year's work, that they aren't a'breakin' of their necks to get out nowheres else."

And now I have taken up a lot of space, when I should be warbling about what's going on in Washington while everybody's watching the great industrial drama. But anyway, this batch of talk I picked out of the kitchen sink's vicinity hands you an idea of the way the epidemic of strike gab has hooked its fangs into all but about three people that have their names in the Washington city directory.

Pity the Poor Villagers

My only hope is that the villagers run out of breath and that in a hurry before the strike is settled, because it would be something close to fierce if they were to wake up some fine morning, all keyed up for several hours of verbal gymnastics, and find themselves with nothing to talk about because the eagle of war that's been sitting on top of the coal tipples has been driven far, far away by the clatter of rumbling machinery.

Talc in 1921—The production of talc and soapstone in 1921 showed a great decline as compared with that in 1920. The quantity sold was the smallest since 1908 and was about 40 percent less than the average for the five preceding years, according to Edward Sampson, of the United States Geological Survey, Department of the Interior.

The total quantity of talc and soapstone sold in 1921 was 126,000 tons, valued at $1,821,000, as compared with 211,000 tons, valued at $3,035,000, in 1920. This represents a decrease of 40 percent in both quantity and value. Vermont, which since 1917 has been the largest producer, maintained its position by producing 38 percent of the total quantity.

INDUSTRIAL ROMANCE FILLS MANGANESE STORY

Movements for Tariff on War Mineral Began In Tense Days of 1918—Success Overseas Hinged on Domestic Production—Duly Authorized by Congressional Action Precludes Repetition of Emergency

THE CLIMAX in one of the most interesting industrial situations trailing in the wake of the World War was reached on the night of June 5 when the Clerk of the Senate arose in his place and announced adoption of a tariff on manganese ore importations by a vote of 35 to 19. This vote, confirming similar action taken by the House many weeks previously, brought success to efforts inspired four years ago, which had as their aim the establishment of the nation's safety through guarantee of its ability to manufacture its munitions from materials drawn from natural resources within its boundaries.

Immediate necessity for such action first became emphasized on March 13, 1918, when a group of industrial leaders met with officials of the government in Washington and discovered that a dramatic situation had arisen because the manganese mining industry of the United States had not been granted protection against enormous importations of Brazilian ore, and thus had not grown sufficiently to meet the strain placed upon it when the war brought a staggering demand for steel alloys entering into the manufacture of munitions.

OPEN-PIT MANGANESE MINING

Open-pit operation at the Algonquin mine, property of the Philipsburg Mining Company, of Philipsburg, Mont., which formerly was worked for silver, being reopened in 1918 and worked for manganese after a long period of rest. The pit shown above was excavated in 1917 and 1918. The darker area in the center of the photograph is a body of manganese oxide ore

Ships Needed Elsewhere

Ships which had been bringing these ores from foreign shores were needed for transportation of men and army supplies overseas. If this necessity were to be filled, the importation of manganese from South America would be halted, and the manufacture of guns and shells for use of the American Expeditionary Forces would be brought to a standstill. This was the situation facing representatives of the War Industries Board, the Shipping Board and the ferro-alloys committee of the American Iron and Steel Institute, who had gathered to discuss the prices of alloys, which had mounted to the skies when domestic production, stifled for many years through lack of tariff protection, failed to meet the extreme demands which were being made of it.

Victory for the United States and its allies in the World War actually was at stake, and the tense dramatic atmosphere filling the room was evidence that those sitting around the conference table were fully aware of the responsibility that was resting upon them. A misjudgment of policy could easily have brought havoc to the allied cause, for no matter how many men might have been massed on the battle fronts, they would have been as helpless as so many inmates of a Home for the Aged if they were not supplied with a flow of munitions from the steel mills of the United States which were working with frenzy through days and nights, always calling for more raw material.

Realization of Predicament

Especially was the predicament realized when James A. Farrel, of the United States Steel Corporation outlined the situation by stating that if importations of manganese were discontinued that in three months' time the steel industry would be paralyzed and that 90 percent of their orders were for essential war materials.

As a result of the conference a part of the manganese ships were allotted to the overseas service and additional effort was made to secure enactment of the War Minerals Bill, providing an appropriation of $50,000,000 to be used in stimulating the production of war minerals, which could not be produced in peace times in competition with foreign production. The high prices of manganese during the war and the promise of relief under the War Minerals Bill so stimulated production that when the armistice was signed an infant industry was supplying a large part of the demand, thousands of newly developed manganese properties throughout the country pouring their product through to the steel mills of the east, with outputs steadily on the increase.

Mr. Farrell's startling statement was destined, however, to inspire action reaching far beyond the end of the World War, for it evidenced the necessity of development of a domestic manganese industry able to successfully cope with any emergency which the future might bring.

Had not a particular set of circumstances developed during the conference, the war would have come and gone and the lesson which it held in connection with necessity for encouragement of the domestic manganese industry would have been unemphasized.

Originally it was intended that the conference be held behind closed doors, with only members of the three represented bodies in attendance. Feeling that the mining industry had a right to a voice in any conference dealing with the price of its products, the American Mining Congress could scarcely abide by its policy of protecting the affairs of the industry without making efforts to gain a place in the conference. This place was denied by those in charge of the meeting, however, and it was

only when James F. Callbreath, secretary of the organization, pointed out that the government could not transact such business as the meeting intended "in star chamber sessions" that he was permitted to be present at the meeting.

Since all other members of the conference were so intensely submerged in the immediate problem which had brought them together, Mr. Callbreath alone, because of his close contact with the mining industry, caught the significance which Mr. Farrell's statement held in connection with the future of the domestic manganese industry.

It was apparent that unless some protection were offered the producers of manganese in the United States they could not hope to continue operation of their properties in competition with cheap foreign labor, and other factors, and thus would be forced to close their mines and place the country in constant jeopardy of a shortage of one of its most important war minerals in the event of another emergency.

The Basis for Action

Adopting this certainty as a basis for action the American Mining Congress immediately decided to bend every effort that would have as its object the stimulation of the domestic manganese industry to the point where it might stand up under its own strength and take the place its importance as an asset for protection of the country demanded.

Communication was immediately established with all manganese producers in this country on the subject of action seeking to gain protection for the industry under the minerals control bill.

"There appears one immediate source of permanent protection," said a bulletin which was sent broadcast to these producers, "and that is the establishment of a balance of market price through the tariff-fixing powers granted to President Wilson under the Minerals Control Bill, which ceases to be effective when peace is declared. If this plan fails, another will be submitted through which relief may be possible."

It was when the House Committee on Mines and Mining was considering the Minerals Control Bill in May, 1918, that Congress first heard of the necessity of protecting the manganese industry from foreign importations if production were to be increased so as to become large enough to fill the war-time needs.

Accordingly, the measure was framed with the stimulation of the manganese production as one of its main objects, which was accomplished with high success.

Facts Presented to Congress

During consideration of the bill by the House committee Mr. Callbreath presented testimony of conditions upon which the effort for permanent protection was based after the conclusion of the war.

Testifying before the committee, Mr. Callbreath said:

"The present emergency has been created by the fact that the shipping which heretofore has supplied our trade with necessary materials has been of necessity taken from that service and put into foreign service. I feel that in meeting this one emergency we should also look into the future and, if possible, so assist the mining interests of the country as to develop permanent industries which will, so far as it is economically possible, take care of the industrial needs of the country for all time.

"I also feel that the government itself can well undertake to stimulate the production of our home reserves, having in mind the establishment of permanent industries and that the steel users of the world can well pay if it is necessary to do it, a slightly increased price, in order that all of the resources of our country may be utilized in steel manufacture."

Mr. Callbreath's testimony included evidence of the wide extent of manganese deposits of quality in this country. This evidence later was supplemented as a result of direct inquiries addressed by the American Mining Congress to producers throughout the nation, the sum total being presented with undeniable results during the recent tariff debate, when several western senators built up the argument which resulted in adoption of the manganese tariff. This data was gathered by the War Minerals Division of the American Mining Congress, organized in the fall of 1918 and placed under the direction of Herbert Wilson Smith, who later appeared before committees of both Houses of Congress, after conclusion of the war had turned the direction of efforts toward inclusion of a duty on manganese in the tariff bill initiated in the lower house last year.

Testifying before the House Committee on Ways and Means, Mr. Smith declared:

"This committee must be fed up on the principles advocated by many of the industries that have appeared before it, when these industries would support protection on every step above them on our economic ladder, and want to kick off every industry below them, industries which want everything they buy on the free list and everything they sell to be protected, industries which want free wool and protected clothing manufactures, free graphite and protected graphite manufactures, free manganese ore and protected ferromanganese.

Our Position As Creditor Nation

"The objection has been raised that in our position as a creditor nation we must permit other countries to sell goods freely to us. I think we will all grant that the position of a creditor nation is a desirable one. The quickest way we can lose that position is by stimulating imports and hampering our domestic industry. It will not take us many years to get off a creditor nation basis by such method.

"Theoretically many of us are free traders. Theoretically I might be a free trader. Theoretically many members of this committee might be free traders. The thing that keeps us from it is that a vast majority of us have found out that it does not work. Our export business is based on the sale of surplus goods in excess of our own consumption. You can not have surplus production from bankrupt American industries, and we have learned from bitter experience that it takes 20 years of protection to prepare this country to stand four years of free trade."

The House committee placed a duty of one cent per pound on manganese containing more than 30 percent metallic manganese content. This action was sustained by the House. The Senate Finance Committee, when it received the measure, however, set itself against the action of the House, and its recommendation to the Senate was that manganese be placed upon the free list.

This recommendation was made in spite of obviously conclusive evidence contradicting its logicality, produced before both committees by Mr. Smith, Charles W. Potts, Deerwood, Minn.; A. J. Seligman, Butte, Mon.; Walter H. Dennison and others.

Mr. Potts was especially active in the compilation and presentation of facts entering into arguments for the tariff, and he has been given much credit for the results obtained.

When the tariff bill moved along its course to the point where it came up for discussion by the Senate, sitting as a committee of the whole to act upon the recommendations of the Finance Committee, it became evident that a "show-down" on the whole question of

a tariff on manganese importations was imminent. This particular item was made the subject of several short debates before it finally came up for a vote. During these debates Senators Nicholson, Colorado; Bursum, New Mexico; Gooding, Idaho; Walsh, Montana, and Oddie, Nevada, presented strong arguments in favor of the tariff, holding that the Senate should adopt the duty authorized by the House. Just before the vote was taken Senator Nicholson delivered a speech which so combined the arguments in favor of this action as to sweep away the opposition and pave the way for definite action by the Senate.

"The annual requirement of manganese in the steel industry, as stated by their representatives is," said the Senator, "the equivalent of 800,000 tons of 45 percent manganese ore. Of this amount one-half can and will be consumed in the form of high manganese pig, under modern established furnace practice. High manganese pig is made from manganiferous iron ore. To supply the 400,000 tons of equivalent 45 percent manganese in this form will require 2,500,000 tons of manganiferous iron ore per annum, as this ore ranges from 10 percent to 35 percent manganese.

TARIFF PROTECTION A NECESSITY

Ore bins and stock pile of manganese oxide ore at the Gem-Trout mine, Philipsburg, Mont. Without tariff protection, hundreds of similar properties would be forced into idleness, thus depriving the nation of a growing industry and placing it in a predicament in event of a national emergency

"I have before me (exhibiting) two hundred or more statements of state geologists, mine operators, and mining engineers of recognized authority; statements signed by mine operators and owners, some of them are sworn to, many of them are based on careful engineers' reports, from which are summarized the manganese reserves of the United States.

"The principal districts and other known investigated reserves which total more than 25,000,000 tons, based on 45 percent manganese ore, are as follows:

	Tons
Alabama	55,000
Arizona	326,000
Arkansas	4,152,000
California	160,275
Colorado	270,859
Georgia	300,000
Montana	8,479,216
Nevada	201,000
New Mexico	201,500
Oregon	16,000
Tennessee	121,000
Utah	15,000
Virginia	11,114,357
Washington	500
Total	25,411,707

"Reserves of manganiferous iron ore which have been investigated and checked to date occur in the following states:

	Tons
Alabama	2,000,000
Arizona	4,107,110
Arkansas	3,859,500
California	60,000
Colorado	2,772,000
Georgia	480,000
Michigan	7,000,000
Minnesota	10,178,510
Montana	227,492
Nevada	1,052,000
New Mexico	2,824,000
Oregon	1,979,000
Tennessee	65,000
Utah	4,000
Virginia	8,406,000

"There are known deposits on which only general estimates have been given in the following states: Maine, Missouri, Mississippi, Maryland, New Jersey, Oklahoma, South Dakota, Texas, Vermont, Wyoming, Idaho.

"Mr. President, in addition, there are millions of tons of recoverable manganese associated with the metalliferous ores of the south and west. These will be made available if given adequate protection. These ores, with a value placed on their manganese content, will then be commercially valuable for the combined recovery of all minerals contained.

"The development of the manganese industry under the stabilizing influence of a protective tariff will be vastly different from development to meet war needs. It will be substantial, permanent, constructive. Having assurance of a protected market over a number of years, instead of the hazards of a fluctuating market upon war demands, producers will be able to plan their operations on a permanent basis with true engineering efficiency. They will build up a permanent mineral industry which will compare favorably with the other great mineral industries of this country.

"Competition is the life of trade. A duty which will give to the American manganese producer an equal competitive field with foreign production will stimulate domestic production. It will provide revenue for our government. It will strengthen our national defense.

Concluding this speech, Senator Nicholson said:

"Mr. President, the sole question is whether American industries shall be operated by American workmen, making this country independent in time of war and prosperous in time of peace; whether we shall promote our industrial welfare by developing our own raw materials, thus enabling our railroads and lake boats to increase the employment of American labor, or whether we shall compete with riffraff employed in foreign mines, while our citizens seek employment and our own abundant natural resources lie undeveloped."

Although the item still remains to be acted upon by the Senate, passing upon the decision reached by the above vote in committee of the whole, there is no doubt but that a second poll of members will produce the same result, general opinion being that a much greater margin will be shown in favor of the tariff when the second vote is taken.

HAS OIL SHALE ARRIVED?

"Yes" and "No" Both are Correct Answers, Declares Authority—Day of Commercial Production and Dividends Not Far Distant—Development of Process is Present Task —"Very Inviting Future" Foreseen For Industry

By William C. Russell, *Mining Engineer*

MANY TIMES recently I have been asked whether oil shale has really arrived, and whether a successful retorting process has been developed. To the first question, I have had two answers; "Yes" and "No." This is plainly a contradiction, but may be explained in the following few words: Oil Shale has long since arrived insofar as its having been the proper time to acquire land is concerned, but it has not arrived insofar as commercial production goes, because nobody in America is paying dividends today from the manufacture of shale oil. However, the day of commercial production and dividends does not seem to be very far off.

Future Shortage Urges Action

When it became apparent about three years ago that this country was facing an oil shortage and that the shales would probably be in demand as a source of oil, various large producers went about the purchase of substantial acreages of the richest and best located deposits throughout the world, which they proposed to utilize whenever the curve of consumption should cross the curve of production and shale oil could be manufactured in competition with well oil of equal gravity.

The path of the pioneer is always rough and beset with thorns and thistles, and it is only the sturdy and the strong of heart who survive. Through human energy and dogged perseverance the oil shale business will be built up and of its ultimate success there is no doubt.

The country is well supplied with inventors and there are at least a half a dozen processes which merit careful consideration, and any of which may prove to be just the thing we are looking for. Sufficient progress has been made in the chemistry of shale oil to satisfy our technical men that the problems of commercial retorting and refining are by no means insurmountable. The character and quantity of hydro-carbon elements in our American shales are somewhat different from those in the Scottish. Therefore, the Scottish methods as a whole can not successfully be applied to our shales. The Scottish shales are high in nitrogen and hence in sulphate of ammonia, but are low in oil, while our best Colorado shales, for instance, are high in oil and low in nitrogen.

Seek "Single Operation" Process

Certain inventors are endeavoring to develop a process by which finished products may be turned out in a single operation; in other words, they propose to retort the shales and to draw off and condense the volatiles into the various commercial fractions as they go along. This system may work out, but no one to my knowledge has yet developed a successful plant of this type. We listen to all sorts of claims as to what this, that, or the other process can be made to do, but we are yet to see a plant into which raw shale may be put at one end and a long string of finished products taken out at the other, in one brief operation. There is no question but that certain imperfect products may be made by means of this single operation method, but that will not do us much good; what we must have is the completely finished product, or the short-cut system is a failure.

Many of our process men seem to have been lacking in funds, and accordingly have not been able to carry their ideas through to completion without more or less delay. They start up their plants and run a few hours or a few days and then close down in order to raise money enough to make some improvements and put on the next demonstration. This condition is unfortunate, but, at that, every honest effort in the direction of process development should receive the utmost encouragement.

Our big oil men are not much worried about the process question. They figure that American genius, backed up by plenty of money will work out the problem whenever there is urgent demand for oil from shales. Millions are being spent every year in the perfection of well oil refining processes, and during the last few years wonderful progress has been made in that direction; likewise, millions will be available for oil shale plant development whenever oil conditions really become critical; in fact, large sums of money are being spent at the present moment on the chemistry of oil shales and perfection of a process.

Colorado Shales Favorably Located

A large portion of the Colorado shales lie in a particularly favorable physical position for mining. The workable beds vary from 6 to 49 feet in thickness, lie practically horizontally, and are usually located in cliffs high above the valley floors. The deep cut canyons which expose practically vertical escarpments (in some instances hundreds of feet in height) occur at frequent intervals, thus affording a long line of exposures or points of attack. One large company alone, owning shale land in Colorado, has about 30 miles of escarpments on its own property.

The shales will be mined much after the manner of mining coal. Both the longwall and room and pillar systems and possibly the caving system in some cases, will apply. There are but few deposits in our western states which may be mined by the open-cut system, because the expense of moving the great depth of overburden makes open work generally prohibitive. Either shafts or tunnels may be used, depending upon the circumstances. There are so many promontories (or peninsulas, if you like), that it is possible to make an entry at some strategic point, drive into the stratum for a mile or two and then cross cut to daylight in either direction, thus opening up extensive faces, and facilitating ventilation.

Most of the richer shales are low in degree of hardness and are tough and springy, calling for slow-burning, low-strength explosives. When operations shall have begun on a large scale it is probable that coal cutting machines and mechanical mucking and loading devices will be used. It seems probable that a combination augur and hammer drill will be found satisfactory.

Large Scale Operations Necessary

Inasmuch as the profit per barrel of oil produced, at the outset, will probably be small, it will be necessary to operate on a large scale and to put into use all the latest and most approved labor saving machinery, and to apply the highest engineering skill. In order to make

anything like a fair estimate of the probable mining cost one must necessarily be supplied with a set of given conditions. Aside from the natural fixed charges, there is a variable quantity, such as the possible influence of labor unionism for instance, which must be taken into account. Should the mining of the shales fall under metal mining regulations, we will have one set of costs, but should they come under the coal mining scale, we will have another set of costs. Up to date, it is an open question as to what class of labor will be employed. As a preliminary estimate, it appears safe to figure that shales may be mined on a 10,000 ton per day basis at a cost per ton of somewhat less than the cost of mining coal in Colorado today. After all, the mining of the shales is the least of our troubles. If properly planned from the start, shale mining in most of this state should be simplicity itself.

Taking the oil shale situation as a whole, it is my conclusion, based upon a study of the various elements involved extending over a period of several years, that the business has a very inviting future and that men of financial strength and vision might do very well to give this promising new business some serious thought.

OIL SHALE NOTES

Scottish Oils, Ltd., of Scotland, has paid a 7 percent dividend on its preferred stock for 1921. The annual report of March 31, 1922, gives cash on hand at 916,420 pounds sterling or, under normal exchange, $4,582,100.

C. Loftus Hills, Director of the Geological Survey of Tasmania, reports that he has undertaken a complete geological survey of all the oil shale fields of Tasmania. This work will include a system of borings to determine the exact thickness and yield of each stratum. In addition to this field work, tests will be made on a semi-commercial scale, of the various types of retorts, and their adaptation to the Tasmanian shales. Also a thorough investigation will be made of the fractionation and refining of crude shale oil.

In 1921 Esthonia produced 5,785,751 poods or 104,143 tons of oil shale.

The engineers and geologists of the Anglo-Persian Oil Company of England are collaborating with the technical men of the Oil and Nitrate Products, Ltd., of Nova Scotia in experimental work on the oil shale deposits of Nova Scotia. The Oil and Nitrate Company owns the valuable Pictou torbanite deposits in Nova Scotia.

The Washington Shale Oil and Products Company of Seattle, Wash., recently began to break ground for the installation of a Ginet retorting plant on Conn Creek, twelve miles from Debeque, Colo.

The Ute Oil Company, of St. Louis, Mo., has acquired an interest in the oil shale property of the Mount Logan Oil Shale Company, at Debeque, Colo. The Ute Oil Company has been actively engaged in the development of the oil shale industry at Watson, Utah, where it has constructed a retorting plant of the Wallace type and where the company has spent between $200,000 and $300,000 in oil shale work. The fact that this company has increased its shale holdings by entering the Debeque field is evidence that it firmly believes in the future of the oil shale industry. It is reported that the Ute Oil Company will construct a 100-ton unit of the Simplex Shale Process on the Mount Logan property at Debeque.

More than 250 men were engaged in May and June in completing assessment work on oil shale claims in the Debeque, Colo., district. It is estimated that during the year a total of $150,000 was thus spent.

There are approximately one hundred companies owning oil shale land in the Grand Valley-Debeque, Colo., district.

Dr. Victor C. Alderson, president of the Colorado School of Mines, recently made an inspection of the oil shale deposits of Kentucky and is preparing an article on the subject, which will appear in an early number of the Journal.

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NATIONAL LEGISLATION

WITH THE HOUSE OF REPRESENTATIVES in recess from July 3 until August 15, legislative interest is centered in the Senate, where the revised tariff bill has had almost exclusive right of way. However, only a few items of interest to the mining industry have been considered during the month, as attention has been devoted to other provisions of the measure affecting agricultural products and cotton goods. The only vote of interest on mining matters was that on dye stuffs, the Senate, by a vote of 32 to 38, rejecting the proposed dye embargo.

Zinc duties were adopted as follows by the Senate: zinc in blocks, pig or slabs and zinc dust, 1¾ cents per pound; in sheets, 2 cents per pound; in sheets, coated or plated with nickel or other metal (except gold, silver and platinum) or solutions, 2¼ cents per pound; old and worn out, fit only to be remanufactured, 1½ cents per pound.

Senator Poindexter, Republican, of Washington, proposed amendments to the tariff bill placing a duty of $30 per ounce on the metallic contents of ores of the platinum metals and $50 per ounce on platinum unmanufactured or in ingots, bars, sheets or blocks, sponge or scrap.

Congress completed consideration and the President approved all appropriation bills for the support of the government for the new year which began July 1.

Total appropriations for the government for the year beginning July 1 amounted to $3,747,035,382, which is $319,280,984 less than the preceding year. The President, in addressing heads of government departments at the first budget session of the new year, gave notice that economy in government expenses must be continued, as the administration does not desire to increase taxes. It is estimated that there was for 1921 a reduction of $80,000,000 in taxes and that for 1922 the reduction will amount to $850,000,000.

Because the President called mine operators and union officials into conference with a view of settling the coal strike, Congressmen paid little attention to the coal situation, although the mine riots at Herrin, Ill., were deplored in speeches by Senator Myers, Democrat, Montana.

The coal riots were condemned by Representative Goodykoontz, Republican, of West Virginia, while Representative Denison, Republican, Illinois, in whose district the riots occurred, said reports of the riots were overstated and that perhaps the company was to blame because it had repudiated a contract with the union.

No action was taken by the House on the resolution introduced by Representative Burke, Republican, Pennsylvania, authorizing the President to take over and operate coal mines for one year or longer.

No action was likewise taken by the House on the bill introduced by Representative Fish, Republican, New York, for appointment of five Senators and five members of the House to investigate coal strike, the wages, hours, and conditions of employment; and the question of profits and losses of mine operators.

The Federal Trade Commission transmitted its second report on investments, costs, prices and profits in the bituminous coal industry, showing the average investment for the country to be $3.12 per ton, although in some districts it is less than $1 per ton, while in others it is $8, $9 or more. For the Southwestern Pennsylvania district an investment of $4.26 per ton is reported; Central Pennsylvania, $3.04; Kanawha, W. Va., $3.40; Kentucky, No. 1, $2.21; Illinois, No. 3, $1.94; Ohio, No. 8, $3.56; Indiana, No. 1, $1.44; Cherokee-Crawford, Kan., $1.19; Colorado, domestic, $4.79; Utah, $3.32. The report covers the years 1916 to 1921 for the country as a whole, for six great mining regions by states, and by districts for 50 of the 74 mining districts of the country.

Senator Kendrick, Democrat, Wyoming, introduced a bill providing that 10 percent of the receipts under the leasing law, except in Alaska, shall be paid to the government, as well as all receipts from lands in naval petroleum reserves. For past production, 70 percent of receipts and for future production 52½ percent shall go into the government reclamation fund and of past production 20 percent and of future production 37½ percent shall go to the states.

The Senate passed a resolution by Senator King, Democrat, Utah, for investigation of relations between the Union Oil Companies of Delaware and California and the Shell Oil Company of California, including ownership of oil lands.

Representative Sinnott, Republican, Oregon, introduced, by request, a bill authorizing leases for permits in 20-acre units, not exceeding 160 acres, to persons whose mining claims in the Red River, Okla., region were recently invalidated by the Supreme Court.

Senator Smoot, Republican, Utah, introduced a bill for leases for mining purposes, including oil and gas, under regulations of the Interior Department, on Indian reservations in Arizona, New Mexico and Utah.

The House Committee on Public Lands reported a bill already passed by the Senate providing that after twelve months after its enactment section 18a of the leasing law shall apply to lands in Utah embraced in executive withdrawal of October 4, 1909.

A large number of bills seeking to prevent child labor were introduced, among those presenting measures to this effect being Representatives Voigt, Wisconsin; Moore, Thompson and Foster, Ohio; and Senator Townsend, Michigan, all Republicans.

The matter of lease to private parties or government operation of the Muscle Shoals, Ala., nitrate project will have to be settled by the Senate, as its committee on agriculture, which has been considering the matter for several months, rejected not only all lease offers submitted by private individuals but also a proposal for operation of the plant by a Federal corporation.

Both Houses of Congress have passed a bill providing for fifty-year leases for

IMPORTANT BILLS REVIEWED IN THIS ISSUE

MINING—
- S. 3730: By Mr. Kendrick (Dem.), Wyoming. (Filing of Claims)
- S. 3828: and H. R. 12233: By Mr. Harreld (Rep.), Oklahoma. By Mr. Sinnott (Rep.), Oregon. (Red River leases)
- S. 2460: By Mr. Smoot (Rep.), Utah. (Utah lands, passed by Senate and reported to House)
- S. 3747: By Mr. Smoot (Rep), Utah. (Leases on Indian Reservations)
- S. 3519: By Mr. Bursum (Rep.), New Mexico. (National park)
- S. 3794: By Mr. Kendrick (Dem.), Wyoming. (Leasing law receipts)

COAL—
- H. J. Res. 362: By Mr. Burke (Rep.), Pennsylvania. (Government operation)
- H. J. Res. 363: By Mr. Fish (Rep.), New York. (Congressional investigation)

LABOR—
- S. J. Res. 224: By Mr. Townsend (Rep.), Michigan.
- H. J. Res. 355: By Mr. Voigt (Rep.), Wisconsin.
- H. J. Res. 367: By Mr. Moore (Rep.), Ohio.
- H. J. Res. 368: By Mr. Foster (Rep.), Ohio.
- H. J. Res. 370: By Mr. Thompson (Rep.), Ohio.
- H. R. 12065: By Mr. Madden (Rep.), Illinois. (Railroad wages)

OIL—
- S. J. Res. 311: By Mr. King (Dem.), Utah. (Investigation of certain companies, passed by Senate)
- H. J. Res. 297: By Mr. Appleby (Rep.), New Jersey. (Pollution conference, enacted into law)

ANTI TRUST—
- S. 3825: By Mr. Walsh (Dem.), Montana. (Stock ownership)

WAR—
- H. J. Res. 356: By Mr. Voigt (Rep.), Wisconsin. (Approval by public)

MEXICO—
- H. Con. Res. 63: By Mr. Connally (Dem.), Texas. (Bandit investigation)

TAXATION—
- S. 3746: By Mr. King (Dem.), Utah. (Debt tax)

MISCELLANEOUS—
- H. J. Res. 364: By Mr. Winslow (Rep.), Massachusetts. (Alien property claims)
- S. 3792: By Mr. Pittman (Dem.), Nevada. (Colorado River development)
- S. 3786: By Mr. Borah (Rep.), Idaho. (Shipping Board)
- S. 3802: By Mr. Ladd (Non-Partisan Rep.), North Dakota. (Muscle Shoals)

power developed on the Salt River irrigation project in Arizona, under which mining companies contemplate power development.

The filing of mineral claims in local land offices within 90 days after location in the United States and six months in Alaska is proposed in a bill introduced by Senator Kendrick, Democrat, Wyoming.

Proposed revision of mining laws was further delayed by the receipt by the House Committee on Mines and Mining of a report by Secretary of Interior Fall, who considers it inadvisable at this time to radically change the general laws now in effect.

To discourage debts, Senator King, Democrat, Utah, introduced a bill by request proposing a tax of one cent on each dollar of debt, payable by the debtor upon liquidation of the debt.

Conferees on the bill passed by both Houses creating additional judges recommended appointment of twenty-four new district judges and one additional circuit judge for the fourth circuit, but no action has been taken on the report by either House.

An investigation by a committee of three members each of the House and Senate as to the capture of American citizens and property in Mexico was introduced by Representative Connally, Democrat, Texas, following recent activities of bandits in that country.

Both Houses of Congress passed and the President approved a law creating a Second Assistant Secretary of Labor in charge of immigration matters.

Although Congress in the Interior Department appropriation law authorized abolition of land offices in districts having less than 100,000 acres of public lands, a bill was passed and approved by the President continuing for one year beginning July 1 the land offices at the following places: Bellefouchere, S. D.; Waterville, Wash.; Dickinson, N. D.; Del Norte and Sterling, Colo.; Clayton and Fort Sumner, N. M.; Harrison and Camden, Ark., and Alliance, Nebr.

MINING

(Mineral Claims)

S. 3730. Introduced by Mr. Kendrick, Democrat, Wyoming. Referred to the Committee on Public Lands. This bill provides that mineral claims shall be filed in local land offices. Hereafter notice of location of any mining claim under the mineral laws of the United States shall be filed in the local land office of the district in which the lands covered by the location are situated, within ninety days after location. The administration of the law will be under regulations provided by the Interior Department, which shall require that within ninety days after its passage notice of location of any mining claim now located under the mineral laws of the United States shall be filed in the local land office of the district in which the lands covered by the location are situated. Until a patent has been granted for such claim, an affidavit showing proof of work performed or improvements made upon such claim shall be filed in such local land office within ninety days after the end of the year in which such work was performed or such improvements were made. In case of failure to file these notices of location or to file affidavit of proof within the period required, such claim shall be open to relocation in the same manner as if no location had been made. Section 2324 of the Revised Statutes relating to the manner of recording of locations under the mining laws is repealed, and no filing other than the filing of such claims in the manner provided for in this act shall be necessary, the law of any state or territory, the decision of any court, or the rule or regulation of any administrative body to the contrary notwithstanding. The payment of such fees as may be deemed necessary to defray the expenses incurred in the filing of the notice of location and other papers required to be filed under the provisions of this act is to be fixed by the Secretary of Interior. For Alaska the time to file notices and affidavit of proof is fixed at six months, instead of three months as required for the United States.

(Red River Leases)

H. R. 12233. Introduced by Mr. Sin-

nott, Republican, Oregon (by departmental request). Referred to the Committee on Public Lands. This bill authorizes the Secretary of the Interior to grant permits or leases to certain persons and corporations for lands and oil and gas deposits south of the medial line of the main channel of Red River, Okla. The bill is occasioned by the recent decision of the Supreme Court invalidating claims in this section on the ground that they were not subject to location under the placer mining laws. The bill authorizes the Secretary of Interior to consider and adjust the equitable claims of any citizens or corporations of the United States to lands and oil and gas deposits situated south of the medial line of the main channel of Red River, Okla., claimed or initiated prior to February 25, 1920, and upon or for which expenditures were made in good faith for the discovery or development of oil or gas, by issuance of permits or leases to those found equitably entitled.

Permits or leases shall be in twenty-acre units, and no person or corporation shall be entitled to a permit or lease for exceeding one hundred and sixty acres, including, so far as possible, with due regard for the rights and equities of others, the lands upon which wells or other improvements have been made by the applicant.

Each permittee or lessee shall be required to pay to the United States an amount equal to the value at the time of production of one-eighth of all the oil or gas already produced, except oil or gas used for production purposes on the claim or unavoidably lost, and after the date of this act shall be required to pay to the United States a royalty of not less than 12½ percentum of all the oil or gas produced, except oil or gas used for production upon the claim or unavoidably lost.

After adjudication, adjustment, and disposition of all pending claims under this act, any lands or deposits remaining unappropriated and undisposed of shall, after date fixed by the Secretary of Interior, be disposed of in accordance with the leasing law. Upon approval of the act the Secretary of Interior is authorized to take over and operate existing wells on any of such lands pending final adjustment and disposition of claims thereto, and to utilize and expend in connection with such administration and operation so much as may be necessary of moneys heretofore impounded from past production or hereafter produced, and upon final adjustment of pending claims and the issuance of permits or leases therefor, after deducting the expenses of administration and operation and payment of the royalty herein provided to the United States to pay the balance remaining to the party or parties entitled thereto. Out of the 10 percentum of money hereafter received from royalties and rentals under this act to be paid into the Treasury of the United States the Secretary of Interior is authorized to use such portion as may be required to pay the expense of administration and supervision over such permits and leases and the products thereof.

S. 3828. Introduced by Mr. Harreld, Republican, Oklahoma, by request. Referred to the Committee on Public Lands. This bill is similar to the foregoing, except that it applies to claims made prior to October 1, 1919.

(*Utah Lands*)

S. 2460. Passed by the Senate and reported to the House by the Committee on Public Lands. This bill provides that for twelve months after its passage the provision of section 18a of the leasing law shall be extended to land in Utah embraced in the executive order of withdrawal issued October 4, 1909.

(*Lease Receipts*)

S. 3794. Introduced by Mr. Kendrick, Democrat, Wyoming. Referred to the Committee on Public Lands. This bill amends the leasing law of February 25, 1920, by proposing a new division of receipts from sales, bonuses, royalties and rentals thereunder in the United States but not in Alaska.

It provides that 10 percent of these receipts shall go into the general fund of the Treasury; that for past production 70 percent and for future production 52½ percent of the receipts shall go into the reclamation fund; and that for past production 20 percent and for future production 37½ percent of receipts shall go to the states within which leased lands or deposits are located, for use of the states in construction of public roads or school purposes. Receipts from naval petroleum reserves shall go to the government Treasury.

H. Res. 380. Introduced by Mr. Barbour, Republican, California. Referred to the Committee on Rules. This resolution proposes that the House shall consider H. R. 11363, introduced by Mr. Mondell, Republican, Wyoming, to allow the states 20 percent of receipts of royalties from leases on lands in naval petroleum reserves within the states.

(*Indian Leases*)

S. 3747. Introduced by Mr. Smoot, Republican, Utah. Referred to the Committee on Indian Affairs. This bill authorizes leases by the Interior Department for mining purposes, including oil and gas, on Indian reserves in Arizona, New Mexico, and Utah, which have been created either by executive withdrawal or order of the Interior Department. The leases are to be limited to 20 years with provision for their extension. Receipts from the leases shall be divided equally between the Indians for whose benefit the reserve was created, the state in which the leased lands or deposits are located, and the government reclamation fund.

S. 3519. Introduced by Mr. Bursum, Republican, New Mexico. Passed by the Senate. This bill creates a national park embracing the Mescalero Apache Indian reservation in New Mexico but does not abrogate mining laws on lands therein. It is provided that the surface land area of any lease or permit shall be no more than is sufficient for strictly mining purposes. Of receipts from leases of non-metalliferous minerals, one-third shall be for use of Indians, one-third for the government reclamation fund and one-third for road purposes in New Mexico. Coal deposits which may be found on the reservation may be developed for the benefit of the Indians and the output disposed of under regulations of the Interior Department.

COAL

(*Government Operation*)

H. J. Res. 362. Introduced by Mr. Burke, Republican, Pennsylvania. Referred to the Committee on Mines and Mining. This resolution would authorize and direct the President to take over and operate the coal mines for the period of one year or so long thereafter as in his discretion may be necessary for the public good. The resolution is based on the "acute and serious condition existing in the coal industry due to the fact that the operators have refused to continue the miners' wage schedule or negotiate with the miners' committee with a view of adjusting their differences and formulating a satisfactory wage and working schedule, thus causing strikes and lockouts." It authorizes and directs the President to take over and operate the coal mines for the period of one year, or so long thereafter as in his discretion may be necessary for the public good.

The President is further directed to enter into negotiations with the miners' committee and arrange a mutually satisfactory wage and working agreement.

During the period of time the mines are operated by the government the coal produced shall be sold to the public at the actual cost of production plus a reasonable return to the mine owners for such coal as may be produced and disposed of.

(*Investigation*)

H. J. Res. 363. Introduced by Mr. Fish, Republican, New York. Referred to the Committee on Labor. This resolution proposes the appointment of five members each of the House and Senate to investigate the causes of the strike of coal miners in the anthracite and bituminous coal regions, the question of wages, hours, conditions of employment,

and the question of profits and losses of mine operators. The committee would be empowered to take testimony in Washington or elsewhere, to send for persons and papers and report its recommendations to Congress, indicating a method of settlement of the strike which will protect and conserve the interests of the people. The resolution refers to the coal strike as a "national calamity" which will, unless remedial measures are employed, entail fearful suffering among the poor during the winter, and cause excessive prices to industries and other consumers, and declares that continuation of the strike is a menace to the economic welfare of the mine operators, union and non-union labor, and the public.

LABOR

(*Child Labor*)

S. J. Res. 224. Introduced by Mr. Townsend, Republican, Michigan. Referred to the Committee on Judiciary. This resolution proposes a constitutional amendment giving Congress power to regulate the employment and the hours of labor and conditions of employment of persons under eighteen.

H. J. Res. 355. Introduced by Mr. Voigt, Republican, Wisconsin. Referred to the Committee on Judiciary. This resolution proposes a constitutional amendment giving Congress power to regulate and limit in the United States and territory subject to its jurisdiction the hours of labor of all persons under eighteen, and the conditions under which they are employed.

H. J. Res. 367. Introduced by Mr. Moore, Republican, Ohio. Referred to the Committee on Judiciary. This also proposes a constitutional amendment giving Congress power to regulate throughout the United States the employment of persons under eighteen.

H. J. Res. 368. Introduced by Mr. Foster, Republican, Ohio. Referred to the Committee on Judiciary. This also proposes a constitutional amendment providing that after one year from its ratification Congress shall have power to regulate, limit or prohibit throughout the United States and all territory subject to its jurisdiction the employment of persons under eighteen. It would give Congress and the states power to enforce the provision by appropriate legislation.

H. J. Res. 370. Introduced by Mr. Thompson, Republican, Ohio. Referred to the Committee on Judiciary. It proposes a constitutional amendment giving Congress the power to regulate and limit in the United States and all territory subject to its jurisdiction the hours of labor of all persons under eighteen, and the conditions under which they are employed.

(*Railroad Wages*)

H. R. 12065. Introduced by Mr. Madden, Republican, Illinois, by request. Referred to the Committee on Interstate Commerce. The bill amends section 307 of the Transportation Act of 1920, by providing as follows: "All provisions in contracts heretofore or hereafter made restricting, limiting, or any way interfering with the right of any railroad company to employ any person in any capacity, are hereby declared to be interferences in interstate commerce and void, and any such provisions in any such contracts shall not be recognized or enforced by the Railroad Labor Board or any court in which the controversy may arise. All rules and working conditions heretofore or hereafter adopted concerning employes of any and all railroads shall be the same in each craft of each railroad employer, whether the employes are individually or collectively employed."

OIL

(*Investigation*)

S. J. Res. 311. Introduced by Mr. King, Democrat, Utah. Adopted by the Senate. This resolution directs the Federal Trade Commission to investigate and report respecting the ownership by persons who are not citizens of the United States of the shares of the Union Oil Company of Delaware; the Union Oil Company of California, and the Shell Oil Company of California; the interrelations between said corporations; the interest of said corporations in other corporations in the United States; whether or not Great Britain, the British Dominions, Holland, Rumania, or other countries having oil lands within their territories discriminate against American citizens with respect to the ownership of oil lands, or with respect to the ownership of shares in corporations which are organized to exploit and develop oil lands or engage in the production of petroleum; the acreage of oil lands in the United States which is held, by lease or otherwise, by the Union Oil Company of Delaware, the Union Oil Company of California, and their subsidiary and affiliated companies; the acreage of oil lands which has been acquired by said corporations, or any of them, within the last year; and what measures are being pursued by said corporations to further extend their holdings of oil lands within the United States.

(*Pollution Conference*)

H. J. Res. 297. Introduced by Mr. Appleby, Republican, New Jersey. Passed by the House and Senate and made a law by approval of the President July 1. This law provides that the President shall call a conference of maritime nations to adopt means for prevention of pollution of navigable waters. It reads as follows:

WHEREAS, The careless casting of oil refuse into the sea from oil-burning and oil-carrying steamers has become a serious menace to the maritime and the fishing industries of the United States and other countries; and

WHEREAS, The fire hazard created by the accumulation of floating oil on the piles of piers and bulkheads in harbor waters is a growing source of alarm; and

WHEREAS, Most serious is the destruction of ocean fisheries resulting from the constant discharge into territorial waters of the waste products of the oil used for fuel on many steamers in place of coal, which threatens to exterminate the food fish, oysters, clams, crabs, and lobsters, which are a vital part of our various national food supplies; and

WHEREAS, The dumping of this oil refuse is not only ruining the bathing beaches situate on the territorial waters of the various countries, which during the summer attract hundreds of thousands of people to the seashore resorts, but the depreciation in value of resorts, of dollars of seashore property is most alarming; and

WHEREAS, This pollution takes place on the high seas as well as within territorial waters; now, therefore, be it

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That the President is requested to call a conference of maritime nations with a view to the adoption of effective means for the prevention of pollution of navigable waters.

ANTI TRUST

(*Stock Ownership*)

S. 3825. Introduced by Mr. Walsh, Democrat, Montana. Referred to the Committee on Judiciary. This bill seeks to prevent evasions of the anti-trust laws and was recommended by the Federal Trade Commission following its investigation and report on conditions in the petroleum trade in Wyoming and Montana. The bill provides that from and after one year from the date of its approval the ownership or control, direct or indirect, by any person, partnership, association or corporation of any shares of stock or other property interest in more than one association or corporation engaged in commerce among the states or with foreign nations which has been a member of a combination dissolved pursuant to a judicial proceeding under the Sherman Anti-Trust Act of July 2, 1890, or which has acquired the possession or control of any of the works, plants, or other operating property or patents or brands of such a combination or any constituent element thereof, is prohibited. Violation of the act, which

is to be enforced by the Federal Trade Commission, would subject the offender to a fine of not exceeding $5,000 or imprisonment for not more than 2 years.

WAR

(*Declaration Provision*)

H. J. Res. 356. Introduced by Mr. Voigt, Republican, Wisconsin. Referred to the Committee on Judiciary. This resolution proposes a constitutional amendment requiring a vote by the people on a declaration of war. The proposed amendment follows: "That Congress shall not, except in case of threatened invasion, declare war, unless such question is first certified to the governors of the several states, who shall immediately submit the same to a vote of the voters of their respective states. Said governors shall within ten days after Congress has voted to submit such question, certify the results of such elections to the Secretary of State, who shall at once communicate the same to Congress."

MEXICO

(*Investigation*)

H. Con. Res. 63. Introduced by Mr. Connally, Democrat, Texas. Referred to the Committee on Rules. This resolution proposes an investigation by three members each of the House and Senate as to kidnaping and capture of American citizens and property by bandits in Mexico. This resolution was based on recent reports of the capture of American citizens and property in Mexico by bandits, who were held for ransom.

TAXATION

(*Debt Tax*)

S. 3746. Introduced by Mr. King, Democrat, Utah, by request. Referred to the Committee on Banking and Currency. This bill proposes a tax of one cent on each dollar of debt, to be paid by the debtor at the time of payment of the debt.

ALIEN PROPERTY

(*Claim Settlement*)

H. J. Res. 364. Introduced by Mr. Winslow, Republican, Massachusetts. Referred to the Committee on Interstate Commerce. This resolution proposes the settlement of property valued at $345,000,000, held by the Alien Property Custodian. It is designed primarily to settle 30,000 properties valued at less than $10,000 each. The bill would permit any person claiming right or interest in any of these properties to file with the Alien Property Custodian a claim for such property. If the custodian shall not act on the claim within 60 days the claimant may file suit in district courts.

NEWLY ADOPTED WAR MINERALS POLICY RESULTS IN SPEEDY ACTION UPON CLAIMS

THE RECENTLY adopted plan of the Department of the Interior under which war minerals claims are to be speeded to disposition already is showing results in the number of cases acted upon by Secretary Fall and the commission. Of a total of forty recommendations for awards submitted by Judge Robinson to Secretary Fall during the period between March 15 and July 15, thirty-six have received final approval. Among these cases in which awards have been granted is included that based upon the claim of the Santa Margarita Chrome Company, involving the issue of corporate ownership of several operations, in which it has been necessary for the Interior Department to decide whether profits gained from successful operations could be balanced against losses sustained in ventures which proved unprofitable. Over a hundred cases hinge upon this point alone, and now that a definite though flexible policy has been decided upon by the department, speedy action is expected.

The following list of claims indicates action taken during the month ending June 15:

AWARDS RECOMMENDED BY COMMISSIONER

Georgia Iron & Coal Co., Atlanta, Ga.; $103,527.30 recommended. Affirmed by secretary.

Hopkins Mining Co., New York City; $107,947.97 recommended. Affirmed by secretary.

Santa Margarita Chrome Co.; $18,720.27 recommended. Affirmed by secretary.

John J. Everharty, Los Angeles, Calif.; $10,777.69 recommended. Affirmed by secretary.

R. H. Walden et al., Philipsburg, Mont.; $483.40 recommended.

Thomas Bessler, Jr., Sumpter, Ore.; $585 recommended.

DISALLOWANCE RECOMMENDED

Edward E. Marshall, Philadelphia, Pa.; claim not within the act.

Johnson, Hale & Miller, Narrows, Va.; claim of no commercial importance.

Loyalty Mining Assoc., Holdenville, Okla.; claim for purchase of lease only.

Anderson Mining Co., Kansas City, Mo.; claim of no commercial importance.

Western Ores Co., Oakland, Calif.; losses not incurred during period of stimulation.

E. C. Humphreys Co., Chicago, Ill.; losses not sustained in producing or preparing to produce manganese ore.

Atlantic Ore & Alloys Co., Philadelphia, Pa.; claim not within the act, ferro-chrome not being a war mineral.

Pereira Bros., Jamestown, Calif.; claim not within the act.

Manganese Mining & Development Co., Kansas City, Mo.; claim of no commercial importance.

W. L. Marshall, Blackwell, Okla.; no stimulation established and claim of no commercial importance.

Chas. A. Walcott, Boulder, Colo.; no net loss sustained.

Peru Mining Co., Salt Lake City, Utah; no stimulation established.

Samuel Altshuler, San Francisco, Calif.; claim of no commercial importance.

W. P. Kendall, Muskogee, Okla.; claim of no commercial importance.

Southern Pyrites Ore Co., Atlanta, Ga.; claim of no commercial importance.

John Henninger, Blythe, Calif.; no stimulation established and no production.

W. P. Kendall et al., Sapulpa, Okla.; claim of no commercial importance.

John J. Sweeney, San Francisco, Calif.; no stimulation established.

Daniel Merrifield, Grass Valley, Calif.; no stimulation established.

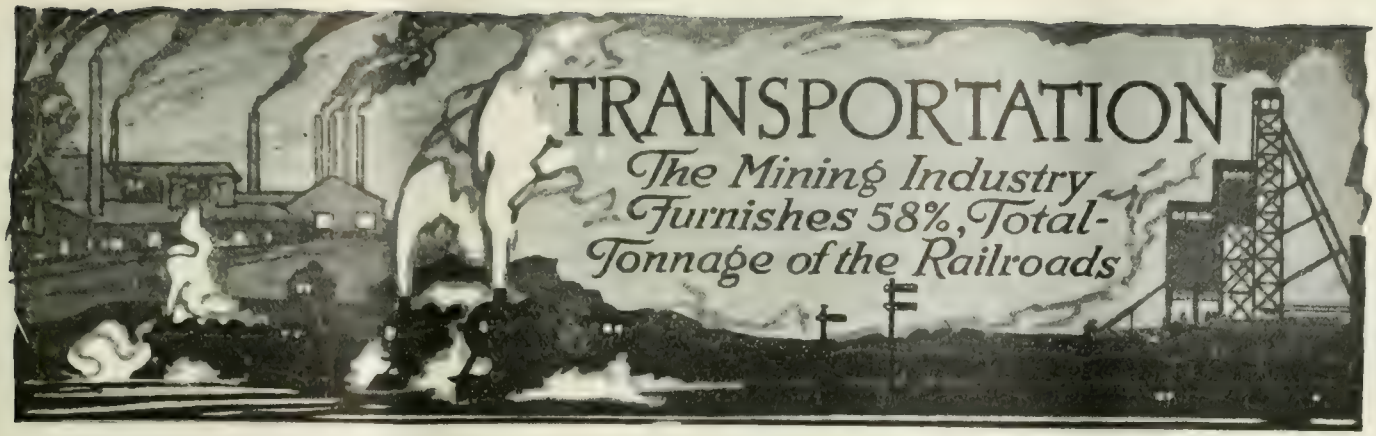
John E. Price, Seattle, Wash.; no stimulation established and claim of no commercial importance.

INDUSTRIAL NOTE

Continued research work is adding to the fund of knowledge concerning the remarkable properties possessed by Calite, an alloy developed by the Calorizing Company of Pittsburgh. Calite is a material for making cast parts which will resist the corrosive action of intense heat. Its development was brought about by observations of the low expansion of high nickel steel, together with the fact that aluminum and nickel form a compound with a very high melting point. This led to the investigation of the promising ternary alloys of aluminum, nickel and iron. By keeping aluminum at a minimum and substituting nickel for iron in various percentages, a series of alloys was obtained which showed increasingly good qualities, and further changes gave the alloy which finally was adopted and given the name of Calite.

PERSONAL

E. B. Kirby, a mining man of note and one of the organizers of the American Mining Congress, who perhaps attended more of the first conventions of that organization than any other persons outside the circle of its officials, has just returned from a protracted visit in England.



I. C. C. HOLDS CAR DISTRIBUTION HEARINGS; NEW SET OF RULES EXPECTED

By C. H. FARRELL

DISTRIBUTION OF COAL CARS AND MINE RATINGS—The Interstate Commerce Commission has just concluded the first of its hearings for the purpose of determining whether the rules suggested by the American Railway Association for adoption by all carriers, to govern the ratings of coal mines and the distribution of cars, are just, reasonable and non-discriminatory. It is expected that the outcome of the hearings will be a set of rules issued by the Commission for all railroads to follow. Commissioners Aitchison and Lewis, assisted by representatives of the State Commissions of Indiana and West Virginia, Examiner Bartel and Attorney Curry, were in charge of the hearing.

Strike Halts Discussion

At the outset it was stated by representatives of the National Coal Association, the Southern Ohio Coal Operators and the Private Car Line Owners, that owing to the industrial crisis which has confronted the operators for the past three months and more, they have not been able to give to this subject the study which it merits, nor were they able to produce, in Washington, at this time, witnesses who could give the Commission information upon which it should base any future rules on this subject. The representative for the carriers stated that the railroads also had been handicapped and that he would join in this request were it not for the fact that at the present time there are in reality no rules in effect, and because of the car shortage which is certain to follow the return of industrial conditions to normalcy he felt that he must state in candor that the carriers would adopt, in the absence of any ruling from the Commission, the rules which they have proposed and which have been agreed to in nearly all particulars by the National Coal Association, even though those rules do contain some changes from the rules which were in effect during the last car shortage.

The rules as proposed by the carriers apply to all mines except anthracite and they have been agreed to by the National Coal Association in nearly all particulars, although that organization does not consider them all that could be desired in every particular. There is objection to the rules by the operators in two main particulars, although it is understood that there is a divided sentiment among them. It is a fair estimate that half of the operators do not agree with the rules in these particulars, while the other half are in favor of them.

An Objectionable Rule

Rule No. 8 is one of the objectionable ones and this provides that private cars, that is, such cars as are assigned to mines for railroad fuel loading and cars assigned to mines for loading of other coal upon order of the Interstate Commerce Commission, will be designated as assigned cars. There is no such rule in force at the present time, and if adopted it will create preference as to much of the coal in times of car shortage. The second rule, about which there is much contention, is No. 12, which provides that a statement showing the car distribution for the preceding month will be furnished as soon as such distribution is ascertained to such coal mines as make application for same. Such statement is to show the car distribution of each mine, the total car distribution of each coal loading district, and the aggregate distribution for all mines and all districts upon the particular railroad where the applicant mine is located.

The hearing therefore proceeded with the testimony of Mr. A. G. Gutheim, who has been connected for some years with the Interstate Commerce Commission, the Railroad Administration and the American Railway Association as an expert on car distribution matters, and especially those which relate to shipments of coal. Mr. Gutheim described in detail the various methods which have been employed from time to time by the carriers in determining what ratings mines should get, and he also dwelt upon the necessity for uniformity in these practices and stated that the purpose of the American Railway Association from the beginning, when it was cooperating with the Fuel Administration, was to distribute a maximum amount of coal in times of coal shortage without handicapping operators any more than was necessary.

Difficulties Are Described

He described the difficulties surrounding the procurement of reliable figures from the operators as to the number of hours actually worked in the mines, and also explained that the time the tipple was worked frequently did not give a fair estimate upon which to base a mine's rating. He stated, in short, that the new rules would require the operators to furnish just enough information to make possible a fair rating based upon the shipping possibilities of the particular mine, and justified the penalty of 25 percent curtailment of the car supply for one week in the event that shipper failed to furnish correct information. He also explained the absence of any extra rating where double shifts were worked by saying that when the original rules were drawn up both the Fuel Administration and the Railroad Administration were opposed to and discouraged the double shift system as far as possible, because it does not actually add to the country's supply of coal except at the particular mine.

The new rule governing wagon mines provides that in times of car shortage these mines must be furnished with box cars. He stated that the reason for this rule is that wagon mines operate only in times of good market, that they spring

up over night, and that the open top cars assigned to them, as a general proposition, are taken away from a tipple mine which would handle them more rapidly and that the net result is less coal and that much of it is of a very poor grade.

In general, he felt that the new rules will meet any reasonable contingency which is liable to arise.

Mr. Gutheim also stated that the assigned car rule was much better than confiscation of coal by the carriers for their own use, because the latter method takes from industries coal which they need and gives to the carrier at a higher price than it needs to pay a grade of coal either too good or too bad for railroad fuel purposes, and if this rule were abolished it would not increase the supply of coal in any way. The state of Iowa forbids confiscation by statute.

The only other witness was Mr. Eugene McAuliffe, formerly in charge of fuel conservation for the Railroad Administration and at the present time, president and general manager of the Union Collieries Company of St. Louis. He testified that the present and proposed methods of mine rating and distribution are wrong and advocated a system whereby all the operators of a given district would get together and work out a rating for each mine in that district, this rating to be revised from time to time if the particular operator failed to use the cars promptly which would be sent to him. His plan is to base a mine's rating upon its actual performance in making shipments.

A further hearing will be had in this matter on August 14, at which time it is expected that the operators and others concerned will be ready to proceed.

TONNAGE OF MINING INDUSTRY—Statistics recently released by the Interstate Commerce Commission show that the mining industry continues to furnish to the railroads for transportation by far the largest number of tons of freight of any industry. For the first three months of this year products of mines were responsible for 54.3 percent of the number of tons of freight originated on all the railroads in this country, an increase of 4.42 percent over the same period last year, while the products of agriculture, animals, and forests, as well as less than carload traffic, all showed decreases. In fact, manufactures and miscellaneous freight, with an increase of 2.94 percent over last year, was the only other classification to show an increase, and the increase for all tonnage was only 2.06 percent.

Taking the total number of tons carried by all railroads (which includes duplications where more than one road was concerned in the haul) we find that products of mines furnished 52.9 percent of the total, an increase of 6.68 percent over last year.

However, the classification which the Commission uses includes under Manufactures and Miscellaneous the following commodities: Refined petroleum and its products, Iron, pig and bloom, Bar and sheet iron, Structural iron and other metals, pig, bar and sheet, which, if added to the tonnage of products of mines, would make a substantial addition to the proportion of the whole which the mining industry is responsible for.

It is interesting to note that out of the total tonnage classified as "Products of Mines," 55.9 percent originated in the Eastern District, 19.4 percent in the Western District, 13.1 percent in the Southern District, and 11.6 percent in the Pocahontas District.

RAILWAY CONSOLIDATION PLAN—The Interstate Commerce Commission has been besieged for some time past with numerous telegrams, letters and copies of resolutions from individuals and organizations, some of which ask that the Commission attempt to have the decree of the Supreme Court regarding the Southern Pacific and the Central Pacific Railroads withheld, or that it recommend legislation which will counteract the effect of the Supreme Court's decision.

The Commission announces that it manifestly cannot consider such requests, but that it will continue with its hearings upon the tentative plan for consolidation of railways which was adopted and promulgated last summer. Hearings with respect to the roads in the Southeastern region have already been conducted, and the Commission contemplates hearings with reference to carriers in the West sometime after October first. The dates and places of these hearings will be announced in due course, and all interested are requested to concentrate their efforts upon preparing evidence for use at these hearings which will give the Commission a complete record upon which to base any findings it may subsequently make. Meanwhile, the Commission suggests that "the energies of those interested be directed along that line instead of sending telegrams, letters and resolutions to the Commission," which "cannot be made a part of the record and can be of no assistance to the Commission in dealing with the problem."

In this connection a complaint has been filed with the Department of Justice by numerous producers and shippers on the Pacific Coast against the alleged activities of the Southern Pacific Railway which are said to be made in an endeavor to create sentiment against the decision of the Supreme Court which requires dissolution of the Southern Pacific and the Central Pacific Companies.

PURCHASE OF SUPPLIES—The Interstate Commerce Commission has recently dismissed an application made by the New York, Chicago & St. Louis Railroad Company and the Lake Erie & Western Railroad Company which presented a rather ingenious plan through which these roads hoped to be made immune from the restrictive provisions of the Clayton Anti-Trust Act in so far as it relates to the purchase of materials and supplies.

The application asked the Commission to approve a proposed contract which provided that when either company had or could conveniently obtain any materials or supplies not needed for its own immediate purposes, it could, when desired by the other company, furnish such supplies to the latter at not more than cost plus ten percent of cost, freight charges and the cost of labor employed in handling, applying or fabricating any such materials and supplies, and further, that the officers of these companies could purchase or obtain any necessary materials or supplies on joint account and furnish same to either of the companies and account for same under the assumption that the lines were being operated as a single system. All transactions between these two companies relating to supplies or other articles and all contracts for construction or maintenance were to be considered as coming under this contract.

The Commission, in dismissing the application, held that while these companies have common directors and while the same interests own the majority of the outstanding capital stock of both companies, nevertheless, the section of the law which authorizes the Commission to approve the acquisition of control of one railroad by another refers to that control of one or more carriers over another carrier, and not mutual control by the two carriers over the same subject matter. Further, the Commission held that the control referred to in the law means the full and complete control which may be exercised by the owner of the majority of the capital stock of a carrier or by the lessee of a property, and not the control which may be exercised by one carrier in the purchase of materials and supplies for another carrier.

LEASE OF THE PANHANDLE BY THE PENNSYLVANIA RAILROAD—The Pennsylvania Railroad has been authorized by the Interstate Commerce Commission to acquire control by lease of the railroad and leased lines of the Pittsburg, Cincinnati, Chicago & St. Louis Railroad Company, subject to the understanding that the Pennsylvania Company and the Pennsylvania Railroad Company shall not dispose of their stock in the Panhandle without first obtaining the consent of the Commission.

ACQUISITION OF BIG FOUR STOCK BY NEW YORK CENTRAL RAILROAD—Authority has also been

granted to the New York Central to issue not exceeding $23,478,880 par value of capital stock, which is to be used in payment for common and preferred capital stock of the Cleveland, Cincinnati, Chicago & St. Louis Railway Company. The New York Central at the present time controls approximately 53 percent of the outstanding stock of the Big Four, and this authorty is granted in order that such control may be made complete.

DENVER & SALT LAKE RAILROAD—The troubles of this line are coming in for consideration of the Interstate Commerce Commission in the very near future. To begin with, this carrier filed a complaint some months ago alleging that the divisions of joint through rates allowed to it by the Santa Fe and its connections were not sufficient, and asked the Commission to prescribe new divisions which will give to this line an opportunity to earn some return upon the investment. It was alleged that the existing divisions did not permit any return whatsoever, although the Santa Fe is earning in excess of a 5½ percent return upon the value of its properties. Following this complaint the Commission in a general proceeding, decided in May, required all carriers to make the equivalent of a 10 percent reduction, and the Denver & Salt Lake thereupon advised the Commission that it could not afford to make any reduction whatsoever. The Commission reopened the proceedings as far as that road is concerned, and the two matters are now coming on for hearing in Denver. As an indication of the importance attached to these proceedings it is noteworthy that four members of the Commission will hear oral arguments in Denver after the conclusion of the hearing and that an immediate report will be forthcoming.

EARNINGS—Complete reports for the month of May show a net operating income of $61,980,600 for all roads, which represents a return of 4.36 percent on their tentative valuation compared with 2.60 percent in May last year and 3.93 percent in April this year. Comparing May of this year with May of last year we find that operating revenues increased nine-tenths of 1 percent, while operating expenses decreased 6.4 percent. Fifty-six roads had operating deficits in May compared with 59 in April.

Taking the first five months of this year we find that the carriers have earned at the rate of 4.36 percent (the same as for the month of May) upon their tentative valuation, as against 1.51 percent during the same period last year, although operating revenues decreased 3½ percent under those for the same period last year. Operating expenses, however, showed a decrease of 13.5 percent.

In the Eastern District, comparing with May of last year, revenues decreased 1 percent, expenses decreased 7.4 percent and income was at the annual rate of 4.57 percent, an increase of $10,950,665. In the Southern District revenues increased 12.6 percent, expenses decreased 6.7 percent, and income amounted to a return of 6.63 percent, the increase being $9,239,859. In the Western District revenues decreased three-tenths of 1 percent, expenses decreased 5 percent, and income amounted to a return of 3.41 percent, the increase being $4,846,808.

SERIES OF STATE POWER MAPS ISSUED BY SURVEY

A MAP of Maine, showing the location of the power stations and transmission lines used in public service and the names of the public utility companies, has just been published by the Geological Survey. This map is one of the series of state power maps now being published by the Geological Survey. Similar maps are now available for New York, Pennsylvania, Massachusetts, Rhode Island, Connecticut, Maryland, Delaware, District of Columbia, Vermont, New Hampshire, New Jersey, Virginia, and Indiana, and copies may be purchased from the Geological Survey for 50 cents each.

These maps are valuable to those who are interested in the inter-connection of power plants, to those who wish to establish manufacturing plants within reach of electric power, and to municipalities that contemplate the use of electricity for light and power. The report of the Geological Survey on the "Superpower System for the Region between Boston and Washington" states that in general it has been found that industrial establishments which require 500 horsepower or less can purchase power more economically than they can generate it themselves. In all but a very few industries it was found to be more economical for plants of less than 200 horsepower to purchase all the energy they require, regardless of their requirements for heating. Almost the same is true for plants of 200 to 500 horsepower. It is only in plants that are larger than 500 horsepower and that have some special requirements for heating that the independent generation of power can be justified, says the report. Even in these plants the power supply and demand cannot be completely balanced, and central station connections should be available for taking up irregularities. Experience has shown that in plants using purchased power much of the fuel formerly used to supply heat in industrial processes can be saved through the simplification of the heating arrangements by the elimination of power production.

These state maps, which show the location of the transmission lines of public service companies, may be of use to companies or municipalities in indicating the possibilities for the purchase of power.

BUREAU OF MINES ANSWERS STATEMENT CONCERNING "CRACKING" PROCESS

BECAUSE of "certain unauthorized and rather extravagant statements that have recently appeared in the press concerning the so-called Bowie-Gavin 'cracking' process," the Bureau of Mines has made an official statement outlining the true situation regarding the experimental work that has been done up to the present time.

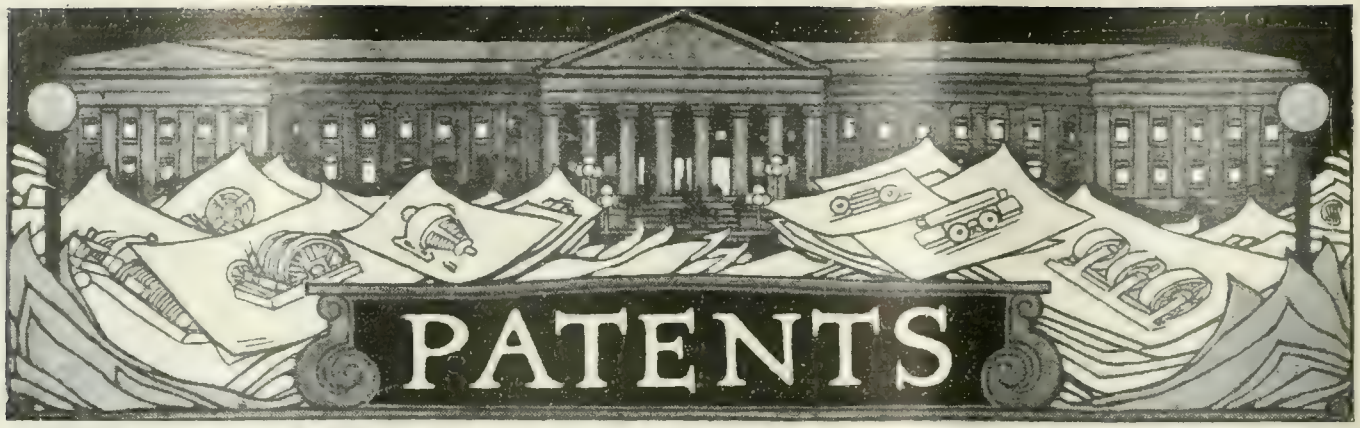
The process is designed primarily for the cracking of tars, heavy crudes, residuals, etc. It is possible that it also may be applicable to the recovery of oils from oil-soaked sands, oil shales, etc., but no attempt has been made to perfect it along these lines, as it is not felt that extractions of this nature could be made profitably under present commercial conditions.

Laboratory experiments have been carried on by the Bureau of Mines for a number of years, and within the past year an eight-foot commercial apparatus has been constructed and operated intermittently at San Francisco. No claims have ever been made that the process has reached a commercial success; on the contrary, it is still decidedly in the experimental stage. However, tests recently made indicate that, so far as the still is concerned, the remaining mechanical difficulties could possibly be overcome by continuous operation of the plant. As this will probably require a larger amount of money than the Bureau of Mines will be able to expend, it is doubtful whether the bureau will be able to carry the experiments to a satisfactory conclusion.

Petroleum: Where and How to Find It. By Anthony Blum; 367 pages. D. Appleton & Co., London, England.

Presented as an endeavor to offer a familiarization with practical aspects of the oil business in an effort to fill the need of authenticated literature on the business phases of the oil industry. The author for over a third of a century has been active in petroleum developments in California, Texas, Kansas, Arizona, Colorado, Montana and other states as well as in Dominion of Canada, and emphasizes his independent position in handling the subject.

The Barrett Company has issued a booklet, entitled "Flotation Oils and Reagents," describing in detail the various methods of ore testing with these agents and also outlining the various difficulties encountered in making laboratory tests and conducting general experimental work.



Conducted by John Boyle, Jr.

1,418,442—*H. P. Hoyle,* Durham, England, June 6, 1922.

Apparatus For Washing Coal or the like, and for separating it from its impurities and comprising a reciprocating paddle or piston provided with valves and combined with an inclined mesh plate so that progressively reduced agitation is produced only during the forward stroke of the paddle or piston, whereby material while being progressively agitated or separated is also steadily carried down the mesh plate.

1,418,514—*L. Bailey,* Hayden, Ariz. Assigned to Mineral Separation North American Corp., June 6, 1922.

Concentrating Ores consisting in first subjecting a pulp of comminuted ore and water, to oiling aeration by distributing therein air containing oil vapor, and then to further aeration by distributing air alone therein.

1,418,523—*J. R. Bradley,* London, England, June 6, 1922.

Apparatus For Grinding, Classifying and Decanting Ores which will combine the functions of a revolving grinding mill of the type usually known as a ball, pebble or tube mill with those of a hydraulic classifier for the purpose of exacuating the material under treatment (hereinafter termed ore), when it becomes sufficiently fine to permit of decantation by suspension in a rising and overflowing current of water. The invention includes the use of a cylinder divided into two principal compartments by a diaphragm provided with apertures to permit the passage of water or other liquid with small particles of ore whilst preventing the passage of larger pieces and of the balls, pebbles or other grinding medium.

1,418,547—*E. Edsor, H. L. Sulman, and F. B. Jones,* London, England. June 6, 1922. Assigned to Minerals Separation North American Corp.

Concentrating Impure Coal containing good coal, bone coal, and gangue, which consists in subjecting the material to froth-flotation separation with a soluble frothing agent to yield a concentrate relatively high in pure coal and subjecting the remaining pulp to further froth flotation with a frothing agent which includes an insoluble selecting agent to yield a concentrate relatively high in bone coal.

1,419,052—*J. Horm,* Eureka, Utah. June 6, 1922.

Riffler Board comprising a wooden deck, a tar paper covering upon said deck, riffle plates upon said covering spaced apart and retained in position by means of spacer strips extending the length of said riffle plate to form a base, said spacer strips being nailed through the tar paper covering to the wooden deck, and tightening clips inserted between said riffle plates and said spacer strips.

1,419,218—*J. M. Cameron,* Dorchester, Va. June 13, 1922.

Mine Car Truck.

1,419,357—*C. E. Carter,* Gillespie, Ill. June 13, 1922.

Operating Mechanism For Mine Doors.

1,419,407—*F. Pardee,* Hazleton, Pa. June 13, 1922.

Coal Breaker. The common style of coal breakers, consisting of rolls with projections of one sort or another which gradually squeeze the lumps of coal between them produces a certain quantity of dust and small sizes or culm which is so small that it is practically waste and is not worth the cost of transporting to market. This invention provides an improvement which reduces the quantity of dust or culm obtained to about one-quarter to one-half of the quantity obtained with the old fashioned crusher and which increases the yield of the so-called "prepared sizes" which command the higher prices.

1,419,773—*S. J. Sprock and R. Dunn,* Clarksville, Pa. June 13, 1922.

Mine Car Brake.

1,419,980—*F. J. Palmer,* Denver, Colo. June 20, 1922. Assigned to Universal Coal Machine Co.

Rock Cutting Machine particularly adapted for use in cutting entry tunnels in coal mines. The principal object of the invention is to provide a machine having a plurality of reciprocating cutting tools actuated by air pulsations, imparted thereto from a plurality of reciprocating air pulsating pistons, in which the pressure on one side of the pistons is maintained substantially constant at all times during the operation of the machine. A further feature of the invention relates to improved means for connecting the tool pistons with the actuating mechanism and to means for controlling the operation of the tool pistons. Another feature is the provision of novel means for mounting the reciprocating tools on a movable head in combination with improved means for controlling the movement of the head. A still important feature of the invention is the provision of novel means for picking up and carrying away the loose pieces of rock which are broken up by the operation of the reciprocating tools.

1,420,138 and 1,420,139—*W. H. Peck,* Los Angeles, Calif., June 20, 1922.

Process and Apparatus for Differential Flotation by which floating energy of flotation emulsion on the mixed particles of different degrees of specific gravity can be coordinated with the energy of centrifugal forces, such energies or forces operating in opposite or opposing lines whereby the particles will be differentially separated notwithstanding neither of such forces alone would effect such separation.

1,420,163, 1,420,164, 1,420,165—*W. E. Trent,* Washington, D. C., June 20, 1922. Assigned to Trent Process Corp.

Method of Cleaning Coal containing a carbonaceous fuel content and non-carbonaceous matter, which consists in reducing the coal to a degree of fineness sufficient to detach a substantial portion of the non-carbonaceous matter from the carbonaceous fuel content, in treating the finely divided materials, while wet with an aqueous material, with an agent having an affinity for the carbonaceous fuel material, said agent being of sufficient quantity to form with the carbonaceous fuel matter a non-fluid amalgam consisting principally of the agent and the carbonaceous fuel matter, separating the amalgam from aqueous material and non-carbonaceous matter originally associated with the coal, and in subjecting the amalgam to distillation to remove the agent and the by-product oils of the carbonaceous fuel, and in collecting the carbonized residue.

1,420,207—*W. E. Moody,* Columbus, Ohio, June 20, 1922. Assigned to J. E. Jones.

Loading Machine for gathering and loading the broken down coal into suitable receptacles. The invention resides essentially in the combination with a conveyor pan having a depressed forward end or nose portion, which conveyor pan is pivotally mounted adjacent its rear end upon a suitable support and whose weight is sustained by the depressed front portion by direct bearing upon the floor, of means located on the underneath side of the nose portion and covering a comparatively small area thereof so that the weight of the forward portion of the conveyor pan is correspondingly concentrated upon a small area. In this manner, any loose particles lying upon the floor of the mine will be crushed because of the concentration of weight or if these particles should take the form of inequalities in the floor level such as small pieces of coal or slate which had not been completely loosened or separated from the floor proper, they are destroyed in some manner, such as shearing because of the concentrated weight.

BUYER'S DIRECTORY

ACID, SULPHURIC
Irvington Smelting & Refining Works, Irvington, N. J.

AERIAL TRAMWAYS
American Steel & Wire Co., Chicago and New York.

AERIAL TRAMWAY CABLE
Williamsport Wire Rope Co., 1301 Peoples Gas Bldg., Chicago, Ill.

AIR COMPRESSORS
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
General Electric Co., Schenectady, N. Y.

ALTITUDE VALVE
Golden-Anderson Valve Specialty Co., Fulton Bldg., Pittsburgh, Pa.

AMALGAMATORS
Allis-Chalmers Mfg. Co., Milwaukee, Wis.

APPLIANCES, ENGINEERING
Lunkenheimer Co., Cincinnati, Ohio.

ARMATURES
General Electric Co., Schenectady, N. Y.

ASSAYERS
Pennsylvania Smelting Co., Pittsburgh, Pa.

AUTOMATIC CAR CAGERS
Connellsville Mfg. & Mine Supply Co., Connellsville, Pa.

AUTOMATIC COAL SKIP
Roberts & Schaefer Co., McCormick Bldg., Chicago, Ill.

AUTOMATIC (Mine Doors, Truck and Electric Switches)
American Mine Door Co., Canton, Ohio.

BAROMETERS
Taylor Instrument Companies, Rochester, N. Y.

BATTERY-CHARGING EQUIPMENT
General Electric Co., Schenectady, N. Y.

BELTING (Conveyor, Elevator, Transmission)
Jeffrey Mfg. Co., 958 N. Fourth St., Columbus, Ohio.

BELTING, SILENT CHAIN
Morse Chain Co., Ithaca, N. Y.

BINS (Coke and Coal)
Jeffrey Mfg. Co., 958 N. Fourth St., Columbus, Ohio.

BIT SHARPENERS
Denver Rock Drill Mfg. Co., Denver, Colo.
Ingersoll-Rand Co., 11 Broadway, New York City.

BLASTING POWDER
Hercules Powder Co., 934 King St., Wilmington, Del.

BLASTING SUPPLIES
Atlas Powder Company, Wilmington, Del.
du Pont Powder Co., The E. I., Wilmington, Del.
Hercules Powder Co., 934 King St., Wilmington, Del.

BLOWERS
General Electric Co., Schenectady, N. Y.

BLOWERS' CENTRIFUGAL
Ingersoll-Rand Co., 11 Broadway, New York City.

BOILER MOUNTINGS
Lunkenheimer Co., Cincinnati, Ohio.

BOILER STOP AND CHECK VALVE
Golden-Anderson Valve Specialty Co., Fulton Bldg., Pittsburgh, Pa.

BOILERS
Allis-Chalmers Mfg. Co., Milwaukee, Wis. (feed pump).

BOXES, JOURNAL
J. R. Fleming & Son Co., Inc., Scranton, Penna.

BREAKERS (Construction and Machinery)
Jeffrey Mfg. Co., Columbus, Ohio.
Vulcan Iron Works, Wilkes-Barre, Pa.
Wilmot Engineering Co., Hazleton, Pa.

BRIQUETTING MACH.
Jeffrey Mfg. Co., Columbus, Ohio.

BUCKETS (Elevator)
Jeffrey Mfg. Co., Columbus, Ohio.

CABLES (Connectors and Guides)
American Mine Door Co., Canton, Ohio.

CABLEWAYS
Jeffrey Mfg. Co., Columbus, Ohio.
Lidgerwood Mfg. Co., 96 Liberty St., New York City.

CAGE (Safety Appliances)
Connellsville Mfg. & Mine Supply Co., Connellsville, Pa.

CAGES
Car-Dumper & Equipment Co., Chicago, Ill.
Connellsville Mfg. & Mine Supply Co., Connells ville, Pa.
Holmes & Bros., Robert, Inc., Danville, Ill.
Lidgerwood Mfg. Co., 96 Liberty St., New York City.

CAR CONTROL AND CAGE EQUIPMENT
Car-Dumper & Equipment Co., Chicago, Ill.

CAR DUMPS
Car-Dumper & Equipment Co., Chicago, Ill.

CAR AND CAR WHEELS
Hockensmith Mine Car Co., Penn Station, Pa.

CAR-HAULS
Car-Dumper & Equipment Co., Chicago, Ill.

CASTINGS
Jeffrey Mfg. Co., 958 N. Fourth St., Columbus, Ohio.
The Lunkenheimer Co., Cincinnati, Ohio.

CHAINS
Jeffrey Mfg. Co., Columbus, Ohio.
Morse Chain Co., Ithaca, N. Y.

CHAINS, AUTOMOBILE ENGINE
Morse Chain Co., Ithaca, N. Y.

CHAINS, DRIVE
Morse Chain Co., Ithaca, N. Y.

CHAINS, FRONT END
Morse Chain Co., Ithaca, N. Y.

CHAINS, OILING
Morse Chain Co., Ithaca, N. Y.

CHAINS, POWER TRANSMISSION
Morse Chain Co., Ithaca, N. Y.

CHAINS, SILENT (Rocker-Joint)
Morse Chain Co., Ithaca, N. Y.

CHAINS, SLING
Morse Chain Co., Ithaca, N. Y.

CHAINS, SPROCKET WHEEL
Morse Chain Co., Ithaca, N. Y.

CHEMICALS
Roessler & Hasslacher Chemical Co., 709-717 Sixth Avenue, New York.

CHEMISTS
Hunt, Robt., & Co., Insurance Exchange, Chicago, Ill.

CIRCUIT BREAKERS
General Electric Co., Schenectady, N. Y.

CLAMPS (Trolley)
Ohio Brass Co., Mansfield, Ohio.

CLUTCHES
Connellsville Mfg. & Mine Supply Co., Connellsville, Pa.

COAL COMPANIES
Clinchfield Coal Corp., Dante, Va.
Lehigh Coal & Navigation Co., Philadelphia, Pa.
Stonega Coal & Coke Co., Philadelphia, Pa.
Thorne, Neale & Co., Philadelphia, Pa.
Wholesale Coal Co., Pittsburgh, Pa.

COAL CRUSHERS
Connellsville Mfg. & Mine Supply Co., Connellsville, Pa.
Jeffrey Mfg. Co., Columbus, Ohio.

COAL CUTTERS
Goodman Mfg. Co., Chicago, Ill.
Jeffrey Mfg. Co., Columbus, Ohio.

COAL DRYING PLANTS
Roberts & Schaefer Co., McCormick Bldg., Chicago, Ill.

COAL HANDLING MACHINERY
Jeffrey Mfg. Co., Columbus, Ohio.
Lidgerwood Mfg. Co., 96 Liberty St., New York City.
Roberts & Schaefer Co., McCormick Bldg., Chicago, Ill.

COAL MINING MACHINERY
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Goodman Mfg. Co., Chicago, Ill.
Ingersoll-Rand Co., 11 Broadway, New York City.
Jeffrey Mfg. Co., Columbus, Ohio.
Roberts & Schaefer Co., McCormick Bldg., Chicago, Ill.

COAL MINE POWER PLANTS
Roberts & Schaefer Co., McCormick Bldg., Chicago, Ill.

COAL MINING PLANTS
Ingersoll-Rand Co., 11 Broadway, New York City.
Roberts & Schaefer Co., McCormick Bldg., Chicago, Ill.

COAL WASHING PLANTS
Roberts & Schaefer Co., McCormick Bldg., Chicago, Ill.

COCKS (Locomotive, Cylinder and Gauge)
The Lunkenheimer Co., Cincinnati, Ohio.
Nicholson, W. H., & Co., Wilkes-Barre, Pa.

COILS (Choke)
General Electric Co., Schenectady, N. Y.

COMPRESSORS, AIR
General Electric Co., Schenectady, N. Y.
Ingersoll-Rand Co., 11 Broadway, New York City.

COMPRESSORS, MINE CAR
Ingersoll-Rand Co., 11 Broadway, New York City.

CONCENTRATORS (Table)
Allis-Chalmers Mfg. Co., Milwaukee, Wis.

CONCRETE REINFORCEMENT
American Steel & Wire Co., Chicago and New York.

CONDENSERS
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Ingersoll-Rand Co., 11 Broadway, New York City.

CONSULTING ENGINEERS
Roberts & Schaefer Co., McCormick Bldg., Chicago, Ill.

CONTRACTORS
Roberts & Schaefer Co., McCormick Bldg., Chicago, Ill.

CONTROLLERS
General Electric Co., Schenectady, N. Y.
Goodman Manufacturing Co., Halsted St. and 48th Place, Chicago, Ill.

CONVEYORS, BELT
Jeffrey Mfg. Co., 958 N. Fourth St., Columbus, Ohio.

CONVEYORS, CHAIN FLIGHT
Jeffrey Mfg. Co., 958 N. Fourth St., Columbus, Ohio.
Wilmot Engineering Co., Hazleton, Pa.

CONVEYORS, COAL
Jeffrey Mfg. Co., 958 N. Fourth St., Columbus, Ohio.
Lidgerwood Mfg. Co., 96 Liberty St., New York City.

CONVEYORS AND ELEVATORS
Jeffrey Mfg. Co., Columbus, Ohio.

CONVEYORS, PAN OR APRON
Jeffrey Mfg. Co., 958 N. Fourth St., Columbus, Ohio.

CONVEYORS, SCREW
Jeffrey Mfg. Co., 958 N. Fourth St., Columbus, Ohio.

COPPER ELECTROLYTIC
United Metals Selling Co., 42 Broadway, New York City.

COPPER WIRE
Anaconda Copper Mining Co., 111 W. Washington St., Chicago, Ill.

CORE DRILLING
H. R. Ameling Prospecting Co., Rolla, Mo.
Hoffman Bros., Punxsutawney, Pa.

CRUSHERS
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Jeffrey Mfg. Co., 958 N. Fourth St., Columbus, Ohio.

CRUSHERS, COAL
Connellsville Mfg. & Mine Supply Co., Connellsville, Pa.
Jeffrey Mfg. Co., 958 N. Fourth St., Columbus, Ohio.

CRUSHING PLANTS, COKE
Jeffrey Mfg. Co., 958 N. Fourth St., Columbus, Ohio.

CYANIDE
American Cyanamid Co., New York, N. Y.
Roessler and Hasslacher Chemical Company, 709 Sixth Avenue, New York City.

DESIGNERS OF PLANTS
Jeffrey Mfg. Co., 958 N. Fourth St., Columbus, Ohio.
Roberts & Schaefer Co., McCormick Bldg., Chicago, Ill.

DIAMOND CORE DRILL CONTRACTING
H. R. Ameling Prospecting Co., Rolla, Mo.
Hoffman Bros, Punxsutawney, Pa.

DOORS, AUTOMATIC MINE
American Mine Door Co., Canton, Ohio.

DRAG LINES
Denver Rock Drill Mfg. Co., Denver, Colo.
Williamsport Wire Rope Co., Gen. Sales Office, 1301 Peoples Gas Bldg., Chicago, Ill.

DREDGES, GOLD AND TIN
New York Engineering Co., 2 Rector St., New York City.

DRIFTERS, DRILL
Denver Rock Drill Mfg. Co., Denver, Colo.
Ingersoll-Rand Co., New York City.

DRILLS, AIR & STEAM
Ingersoll-Rand Co., 11 Broadway, New York City.

DRILLS (Blast Hole)
Denver Rock Drill Mfg. Co., Denver, Colo.
Ingersoll-Rand Co., New York City.

DRILLS, CORE
H. R. Ameling Prospecting Co., Rolla, Mo.
Hoffman Bros., Punxsutawney, Pa.
Ingersoll-Rand Co., New York City.

DRILLS, ELECTRIC
General Electric Co., Schenectady, N. Y.
Ingersoll-Rand Co., New York City.
Jeffrey Mfg. Co., 958 N. Fourth St., Columbus, Ohio.

DRILLS, HAMMER
Denver Rock Drill Mfg. Co., Denver, Colo.
Ingersoll-Rand Co., New York City.

DRILLS (Hand Operated Coal)
Ohio Brass Co., Mansfield, Ohio.
Ingersoll-Rand Co., New York City.

DRILLS, PNEUMATIC
Denver Rock Drill Mfg. Co., Denver, Colo.
Ingersoll-Rand Co., New York City.

DRILLS, PROSPECTING
H. R. Ameling Prospecting Co., Rolla, Mo.
Hoffman Bros., Punxsutawney, Pa.
Ingersoll-Rand Co., 11 Broadway, New York City.
New York Engineering Co., 2 Rector St., New York City.

DRILLS, ROCK
Denver Rock Drill Mfg. Co., Denver, Colo.
General Electric Co., Schenectady, N. Y.
Ingersoll-Rand Co., New York City.

DRILL STEEL SHARPENERS
Denver Rock Drill Mfg. Co., Denver, Colo.
Ingersoll-Rand Co., 11 Broadway, New York City.

DRIVES, SILENT CHAIN
Morse Chain Co., Ithaca, N. Y.

DRUMS (Hoisting, Haulage)
Connellsville Mfg. & Mine Supply Co., Connellsville, Pa.

DRYERS, ORE
Allis-Chalmers Mfg. Co., Milwaukee, Wis.

DUMPERS, ROTARY
Car-Dumper & Equipment Co., Chicago, Ill.

DUMP CARS
Connellsville Mfg. & Mine Supply Co., Connellsville, Pa.

DYNAMITE
Atlas Powder Co., Wilmington, Del.
du Pont Powder Co., The E. I., Wilmington, Del.
Hercules Powder Co., 934 King St., Wilmington, Del.

DYNAMOS
General Electric Co., Schenectady, N. Y.
Goodman Mfg. Co., Forty-eighth Place and Halsted St., Chicago, Ill.

EJECTORS
The Lunkenheimer Co., Cincinnati, Ohio.

ELECTRICAL APPARATUS
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
General Electric Co., Schenectady, N. Y.

ELECTRICALLY OPERATED VALVE
Golden-Anderson Valve Specialty Co., Fulton Bldg., Pittsburgh, Pa.

ELECTRIC HOISTING MACHINERY
Jeffrey Mfg. Co., 958 N. Fourth St., Columbus, Ohio.

ELECTRIC LOCOMOTIVES
General Electric Co., Schenectady, N. Y.
Goodman Mfg. Co., Forty-eighth Place and Halsted St., Chicago, Ill.
Jeffrey Mfg. Co., 958 N. Fourth St., Columbus, Ohio.
Ohio Brass Co., Mansfield, Ohio.

ELECTRIC MINE SUPPLIES
General Electric Co., Schenectady, N. Y.
Ohio Brass Co., Mansfield, Ohio.

ELECTRICAL SUPPLIES
General Electric Co., Schenectady, N. Y.

ELEVATORS
Jeffrey Mfg. Co., 958 N. Fourth St., Columbus, Ohio.

ELEVATORS, BUCKET
Jeffrey Mfg. Co., 958 N. Fourth St., Columbus, Ohio.

ELEVATOR CABLES
Williamsport Wire Rope Co., 1301 Peoples Gas Bldg., Chicago, Ill.

ELEVATOR MACHINERY
Jeffrey Mfg. Co., 958 N. Fourth St., Columbus, Ohio.

EMERGENCY TRIP VALVE
Golden-Anderson Valve Specialty Co., Fulton Bldg., Pittsburgh, Pa.

ENGINE STOP VALVE
Golden-Anderson Valve Specialty Co., Fulton Bldg., Pittsburgh, Pa.

ENGINE TRIMMINGS
The Lunkenheimer Co., Cincinnati, Ohio.

ENGINEERING APPLIANCES
The Lunkenheimer Co., Cincinnati, Ohio.

ENGINES
Lidgerwood Mfg. Co., 96 Liberty St., New York City.

ENGINES, GAS AND GASOLINE
Allis-Chalmers Mfg. Co., Milwaukee, Wis.

ENGINES (Hoisting and Hauling)
Connellsville Mfg. & Mine Supply Co., Connellsville, Pa.

ENGINES, OIL
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Ingersoll-Rand, 11 Broadway, New York City

ENGINES, STEAM
Allis-Chalmers Mfg. Co., Milwaukee, Wis.

ENGINEERS
H. R. Ameling Prospecting Co., Rolla, Mo.
Hunt, Robert & Co., Insurance Exchange, Chicago, Ill.
Jeffrey Mfg. Co., 958 N. Fourth St., Columbus, Ohio.
Roberts & Schaefer Co., McCormick Bldg., Chicago, Ill.

EXPLOSIVES
Atlas Powder Co., Wilmington, Del.
Du Pont Powder Co., Wilmington, Del.
Hercules Powder Co., 934 King St., Wilmington, Del.

FANS, VENTILATING
Connellsville Mfg. & Mine Supply Co., Connellsville, Pa.
General Electric Co., Schenectady, N. Y.
Jeffrey Mfg. Co., 958 N. Fourth St., Columbus, Ohio.
Vulcan Iron Works, Wilkes-Barre, Pa.

FEEDERS, ORE
Jeffrey Mfg. Co., 958 N. Fourth St., Columbus, Ohio.

FILTERS (Water)
Wm. B. Scaife & Sons Co., Oakmont, Pa.

FLOTATION OILS
Hercules Powder Co., 934 King St., Wilmington, Del.

FLOW METERS
General Electric Co., Schenectady, N. Y.

FORGINGS
Allis-Chalmers Mfg. Co., Milwaukee, Wis.

FROGS AND SWITCHES
Central Frog & Switch Co., Cincinnati, Ohio.

FURNACES, MECHANICAL ROASTING
Allis-Chalmers Mfg. Co., Milwaukee, Wis.

GEARS
General Electric Co., Schenectady, N. Y.
Jeffrey Mfg. Co., Columbus, Ohio.

GEARS, SILENT CHAIN
Morse Chain Co., Ithaca, N. Y.

GENERATORS AND GENERATING SETS
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
General Electric Co., Schenectady, N. Y.

GUY LINES
Williamsport Wire Rope Co., 1301 Peoples Gas Bldg., Chicago, Ill.

HANGERS (Insulated Trolley)
Ohio Brass Co., Mansfield, Ohio.

HEADLIGHTS, ARC AND INCANDESCENT
General Electric Co., Schenectady, N. Y.
Ohio Brass Co., Mansfield, Ohio.

HOISTS, ELECTRIC
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Connellsville Mfg. & Mine Supply Co., Connellsville, Pa.
Lidgerwood Mfg. Co., 96 Liberty St., New York City.
Roberts & Schaefer Co., McCormick Bldg., Chicago, Ill.
Vulcan Iron Works, Wilkes-Barre, Pa.

HOISTS, PORTABLE
Ingersoll-Rand Co., 11 Broadway, New York City.
Lidgerwood Mfg. Co., 96 Liberty St., New York City.

HOISTS, STEAM
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Connellsville Mfg. & Mine Supply Co., Connellsville, Pa.
Ingersoll-Rand Co., 11 Broadway, New York City.
Lidgerwood Mfg. Co., 96 Liberty St., New York City.
Vulcan Iron Works, Wilkes-Barre, Pa.

HOISTS (Room & Gathering)
Connellsville Mfg. & Mine Supply Co., Connellsville, Pa.
Holmes, Robert & Bros., Inc., Danville, Ill.
Lidgerwood Mfg. Co., 96 Liberty St., New York City.

HOISTING ROPES
Connellsville Mfg. & Mine Supply Co., Connellsville, Pa.

HOSE, AIR & STEAM
Ingersoll-Rand Co., 11 Broadway, New York City.

HYDRAULIC MACHINERY
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Car-Dumper & Equipment Co., Chicago, Ill.

HYDROMETERS
Taylor Instrument Companies, Rochester, N. Y.

HYGRODEIKS
Taylor Instrument Companies, Rochester, N. Y.

INDUSTRIAL HOUSING
General Electric Co., Schenectady, N. Y.

INJECTORS
The Lunkenheimer Co., Cincinnati, Ohio.

INSTRUMENTS, ELECTRICAL
General Electric Co., Schenectady, N. Y.

INSULATING MATERIAL, ELECTRIC
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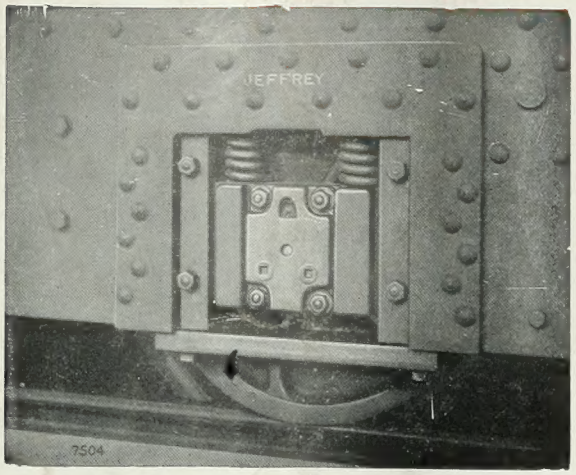

Fig. 1 shows a journal box with lid in place

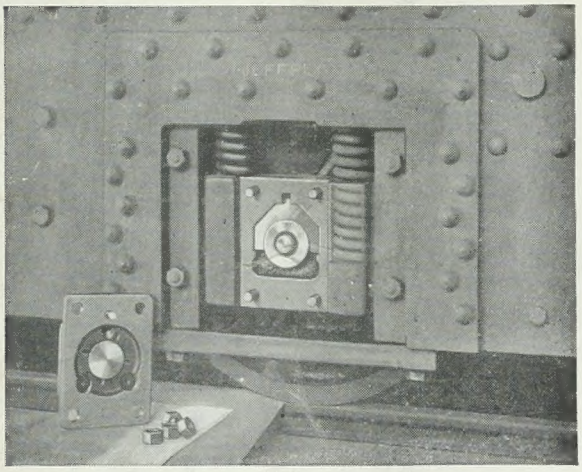

Fig. 2 shows a journal box with the lid removed, exposing the end-thrust bearing

IN the older types of Locomotives trouble was experienced because the wear on the wheel hubs, collars and axle boxes allowed end play between the wheels and the frame, which permitted the gears to move out of line with the pinions, the wheels out of line with the brake rig and similar disorders, causing much expense for general upkeep and on account of delays.

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